DINOSAURS!

•DISCOVER THE GIANTS OF THE PREHISTORIC WORLD•

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IDENTIKIT

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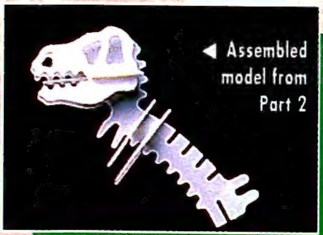
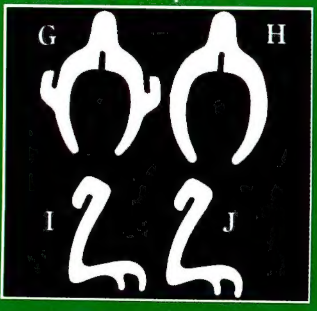


◄ Assembled model from Part 2

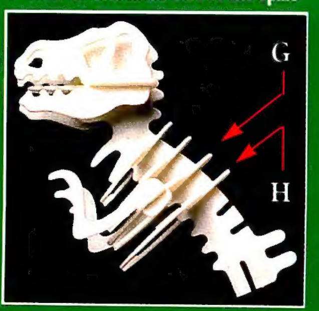
HOW TO ASSEMBLE YOUR MODEL

Place arms I and J on the hooks on rib G, with the arms pointing the same way. Insert rib G into the highest open slot on the spine, with the arms pointing forward. Insert rib H into the next open slot on the spine.

▼ This issue's model parts



▼ How to attach the ribs to the spine



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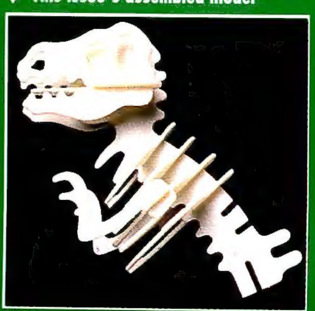

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PRODUCED BY
Quartz Editorial Services,
Premier House, 112 Station Road,
Edgware HA8 7AQ

Dinosaurs! is published by
Orbis Publishing Ltd
Griffin House
161 Hammersmith Rd
London W6 8SD

© 1992/93 Orbis Publishing

N3 93 02 04
Printed in Italy by Officine
Grafiche De Agostini, Novara

PICTURE CREDITS:
Natural History Museum: 50 (T); Science Photo Library/John Mead: 51 (T); Pinsharp 3-D Graphics: 58-9; Sue Baker: 64-7; Jacana: 64-5 (B)
Artwork: Tony Gibbons: FC, 49, 51 (B), 60-1; Kingfisher: 50 (B), 53 (T), 62-3; Black Hat/Paul Mitchell: 52 (T), 72; Black Hat/Richard Prideaux: 54-5, 72 (B/grd); Black Hat/Jane Spencer: 56-7; Graham Rosewarne: 52 (B), 53 (B); Mike Dorey: 68-9; Deborah Mansfield: 71; Neil Lloyd: IBC; Deirdre McHale: BC

STEGOSAURUS

One swipe of its spiked tail and *Stegosaurus* could cripple any predator that threatened it.

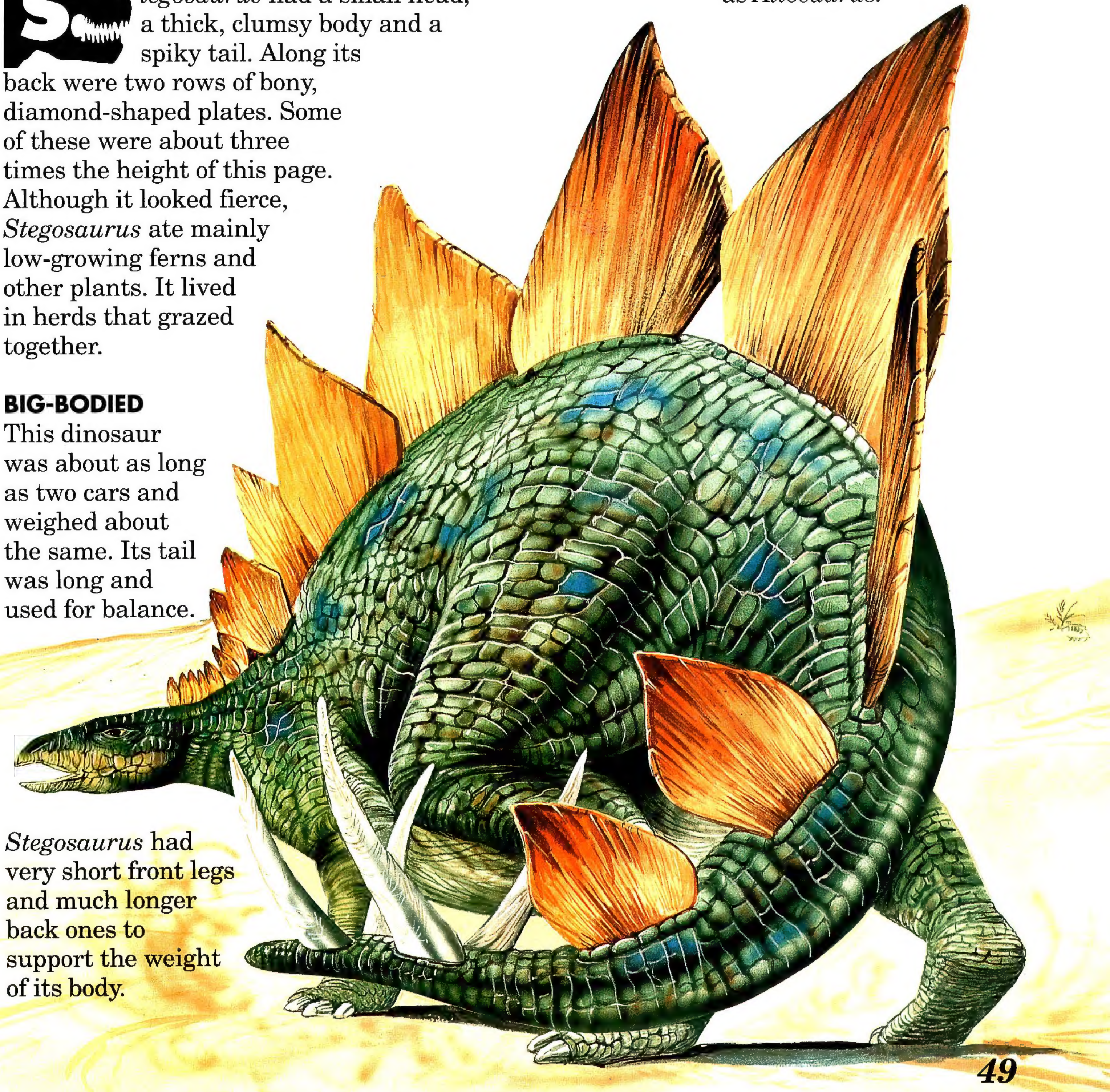
Stegosaurus had a small head, a thick, clumsy body and a spiky tail. Along its back were two rows of bony, diamond-shaped plates. Some of these were about three times the height of this page. Although it looked fierce, *Stegosaurus* ate mainly low-growing ferns and other plants. It lived in herds that grazed together.

BIG-BODIED

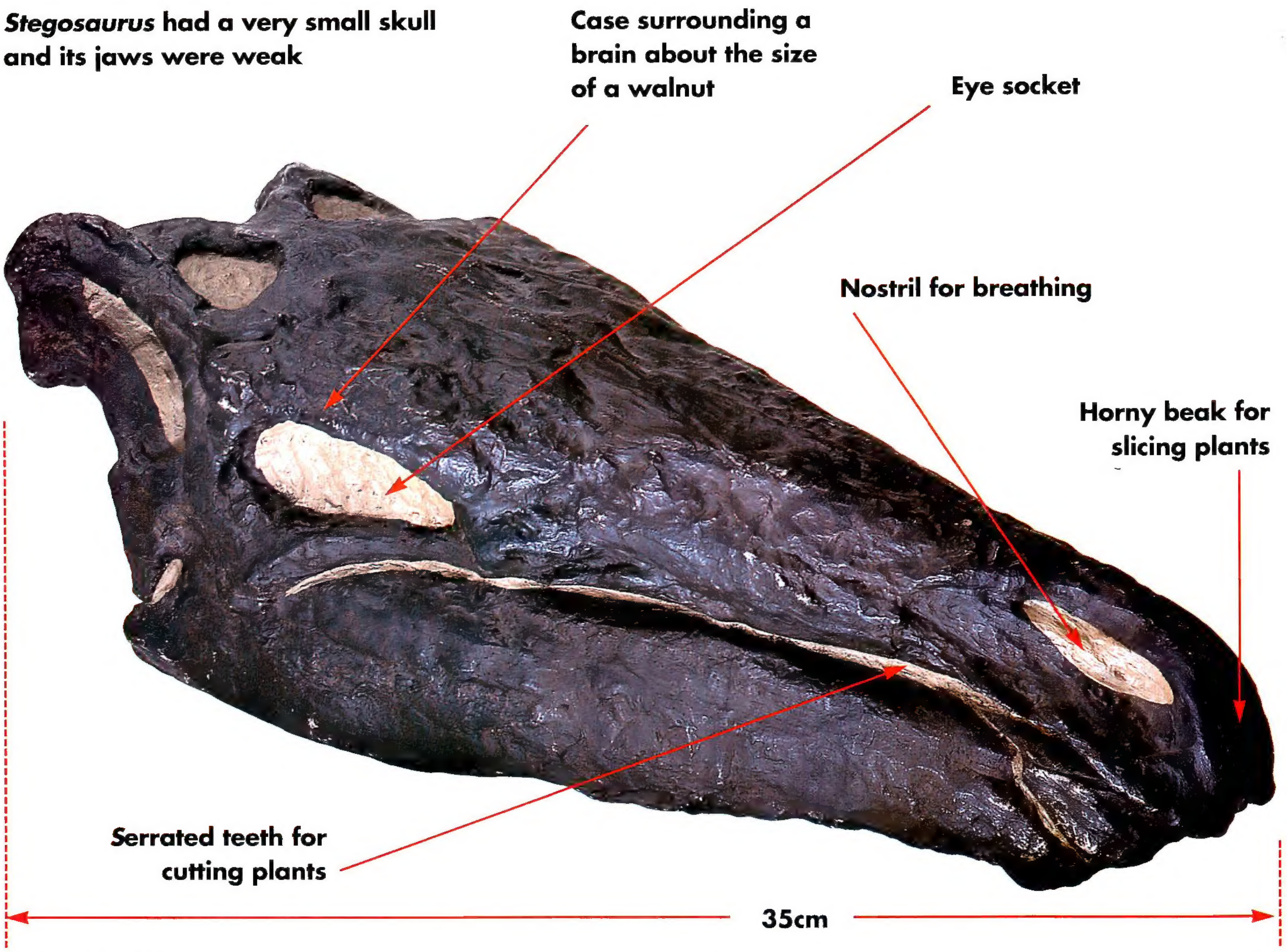
This dinosaur was about as long as two cars and weighed about the same. Its tail was long and used for balance.

STUMPING ALONG

It moved on all four legs, stumping heavily along. It could not walk or run very fast and was preyed on by fast-running, meat-eating dinosaurs, such as *Allosaurus*.



Stegosaurus had very short front legs and much longer back ones to support the weight of its body.



Stegosaurus **had a very small skull and its jaws were weak**

Case surrounding a brain about the size of a walnut
Eye socket
Nostril for breathing
Horny beak for slicing plants
Serrated teeth for cutting plants
35cm

TINY HEAD

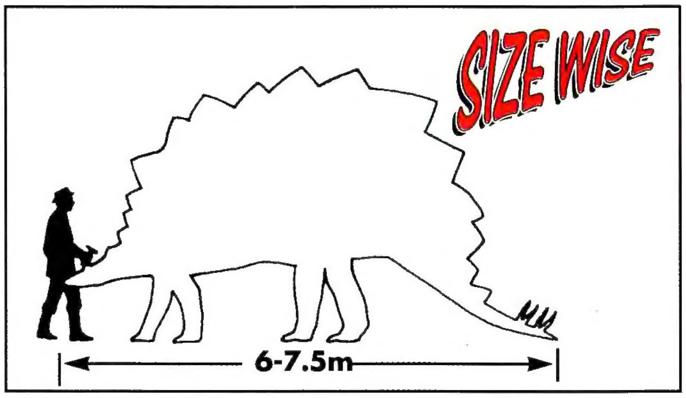
Its small head, which was about the size of a large dog's, was close to the ground so *Stegosaurus* grazed mainly on low-growing plants. It had a weak jaw, and could chew only soft, leafy food. Its brain was tiny, about the size of a walnut. This means it had the smallest brain of any animal, compared to its size, that ever lived.

SPIKY TAIL

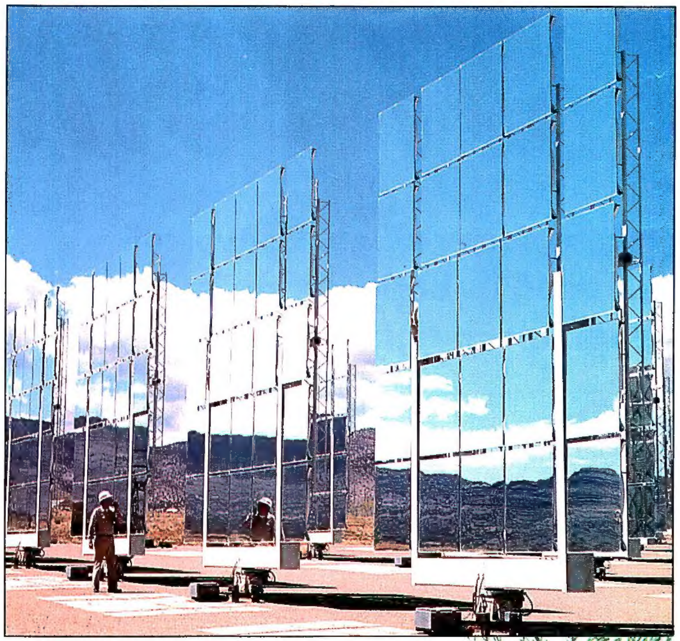
Stegosaurus also had a tail that was very thick and powerful, with bony plates all the way down. At the tip of the tail were four spikes, each one up to 1m long. *Stegosaurus* may have used its tail to defend itself, and its young, against any meat-eating dinosaur which came within range.

MONSTER FACTS

- **NAME:** *Stegosaurus* (steg-oh-saw-rus) means 'roofed lizard'
- **SIZE:** up to 7.5m long and 4m high
- **FOOD:** low-growing ferns and other plants
- **LIVED:** about 140 million years ago in the Late Jurassic Period in North America



The plates on *Stegosaurus'* back may have been a prehistoric version of solar heating panels, like those in the photograph. These panels work by soaking up the sun's rays and provide heat for homes, offices and factories today.

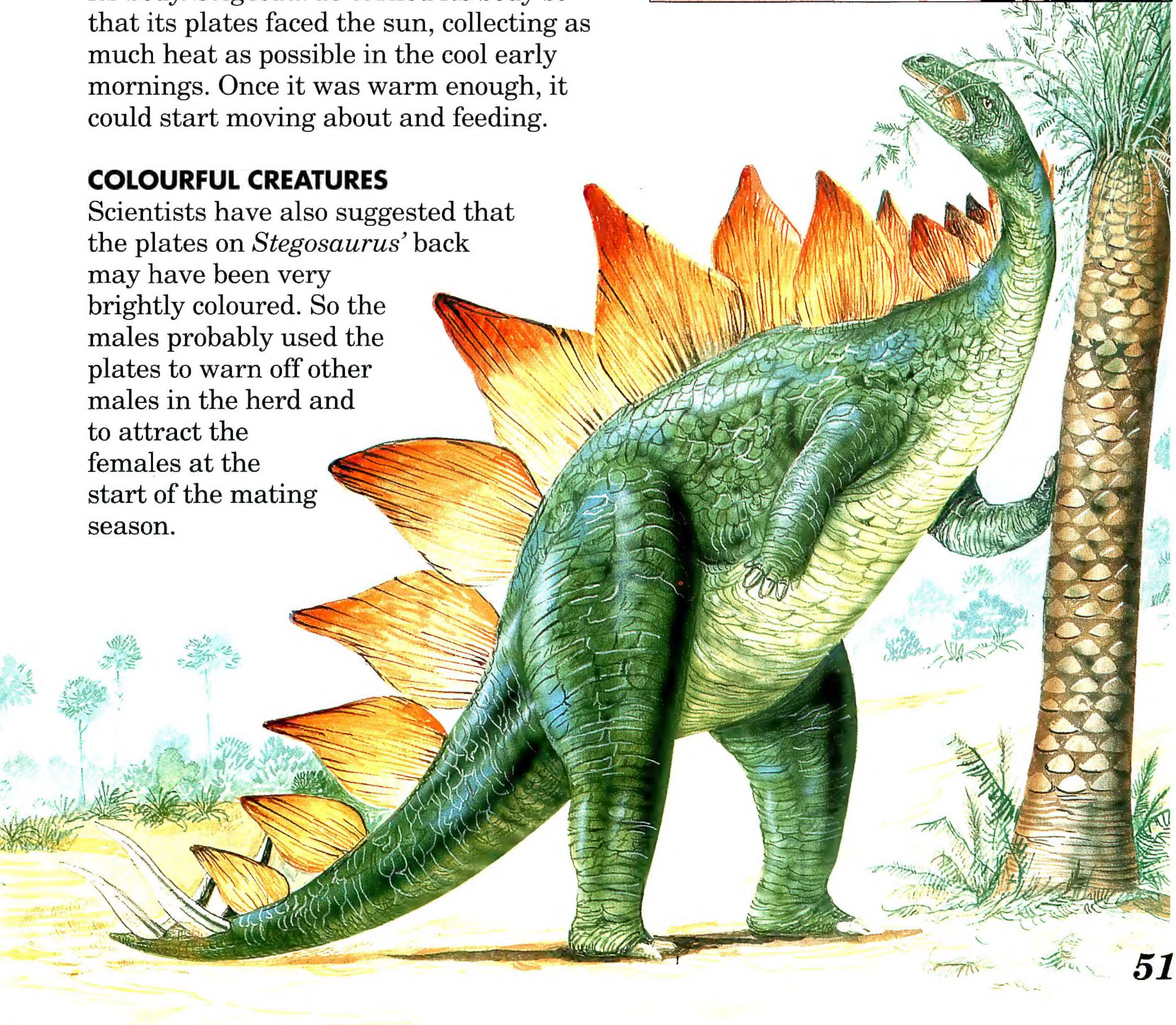


ARMOUR PLATING

On its back, *Stegosaurus* had a row of bony plates. These grew out of the dinosaur's skin, and could easily be torn off by a large predator. Some experts think that the plates were a special sort of solar-heating and air-conditioning system which *Stegosaurus* used to warm or cool its body. *Stegosaurus* turned its body so that its plates faced the sun, collecting as much heat as possible in the cool early mornings. Once it was warm enough, it could start moving about and feeding.

COLOURFUL CREATURES

Scientists have also suggested that the plates on *Stegosaurus'* back may have been very brightly coloured. So the males probably used the plates to warn off other males in the herd and to attract the females at the start of the mating season.



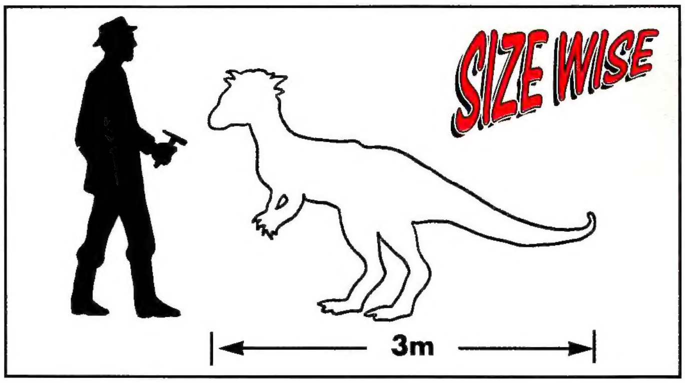
STYGIMOLOCH

***Stygimoloch's* tough, bony skull protected its brain during its amazing head-butting fights.**

Stygimoloch lived in herds and grazed in woodland areas. It had short front legs, but far longer back legs. It also had a lengthy tail which it held level with its body when running. On its head were prominent horns. These were for show and not used as weapons.

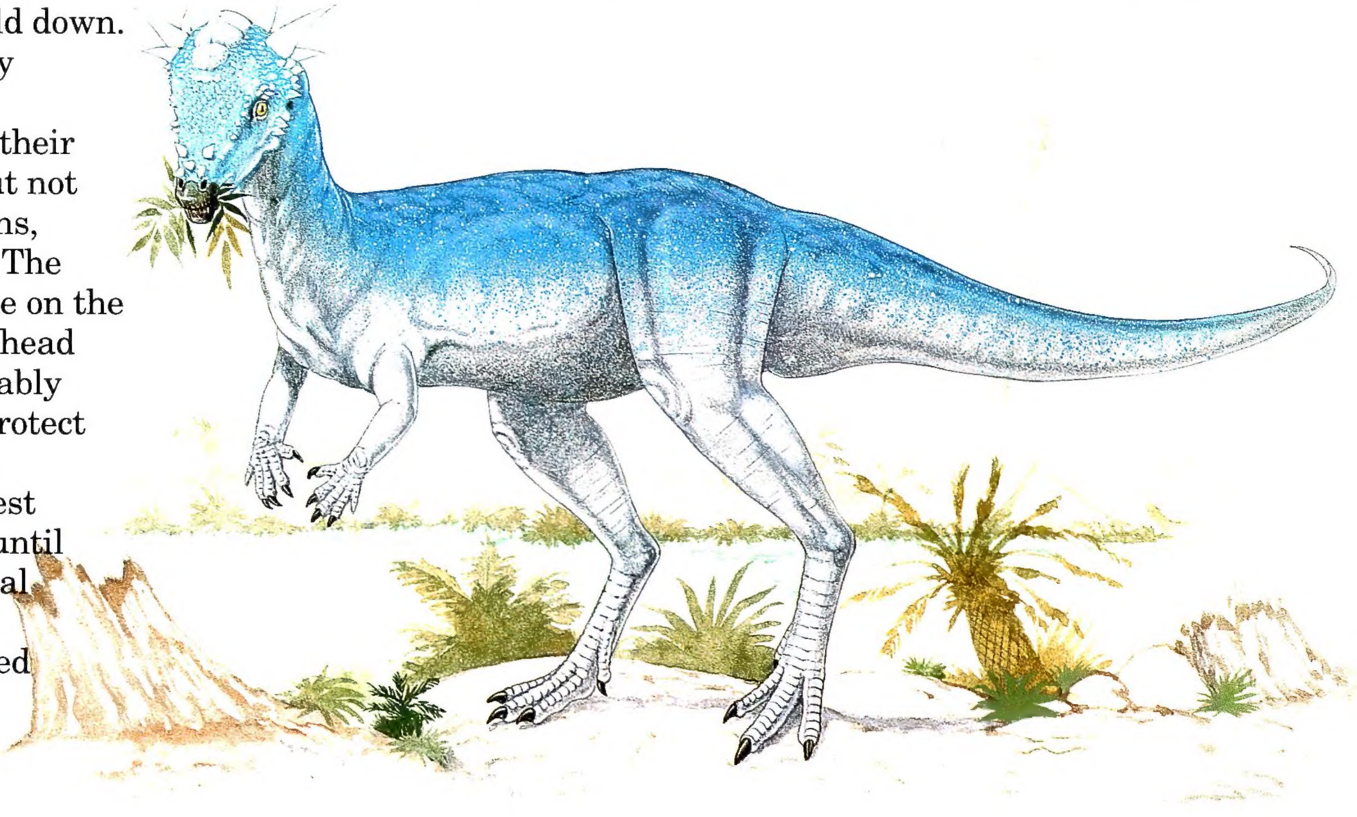
BUTTING CONTESTS

Like some types of sheep and deer alive today, *Stygimoloch* males probably had frequent head-butting contests. The strongest then became leader of the herd. *Stygimoloch* males took up their positions, with their necks stretched out and their heads held down. Then they charged, crashing their heads, but not their horns, together. The thick bone on the top of its head was probably used to protect its brain. The contest went on until one animal gave up, and limped away.



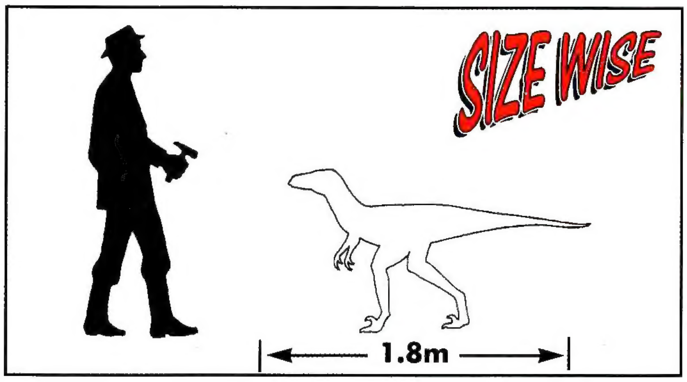
MONSTER FACTS

- **NAME:** *Stygimoloch* (stij-ee-mol-ok) means 'thorny devil'
- **SIZE:** 3m long
- **FOOD:** plants
- **LIVED:** about 70 million years ago during the Cretaceous Period in North America



VELOCIRAPTOR

Not as big as *Tyrannosaurus rex*, *Velociraptor* was still one of the most vicious killers that roamed the dinosaur world.



V*elociraptor* was a feared predator and could run very fast on its long back legs. It chased through the Cretaceous forests after small mammals or small plant-eating dinosaurs which it killed and then ate.

MONSTER FACTS

- **NAME:** *Velociraptor* (vel-o-si-rap-tor) means 'speedy predator'
- **SIZE:** about 1.8m long and 1m high
- **FOOD:** meat, especially other dinosaurs
- **LIVED:** about 90 million years ago during the Cretaceous Period in Mongolia, near China

FIERCE KILLER

Creatures that it chased were terrified of it and had little chance of escape. *Velociraptor* stood on one back leg, attacked with the other, and used its tail for balance. It also had a long, sharp claw on one toe of each foot. This faced inwards and was used to stab and slash at its helpless prey.

SHARP TEETH

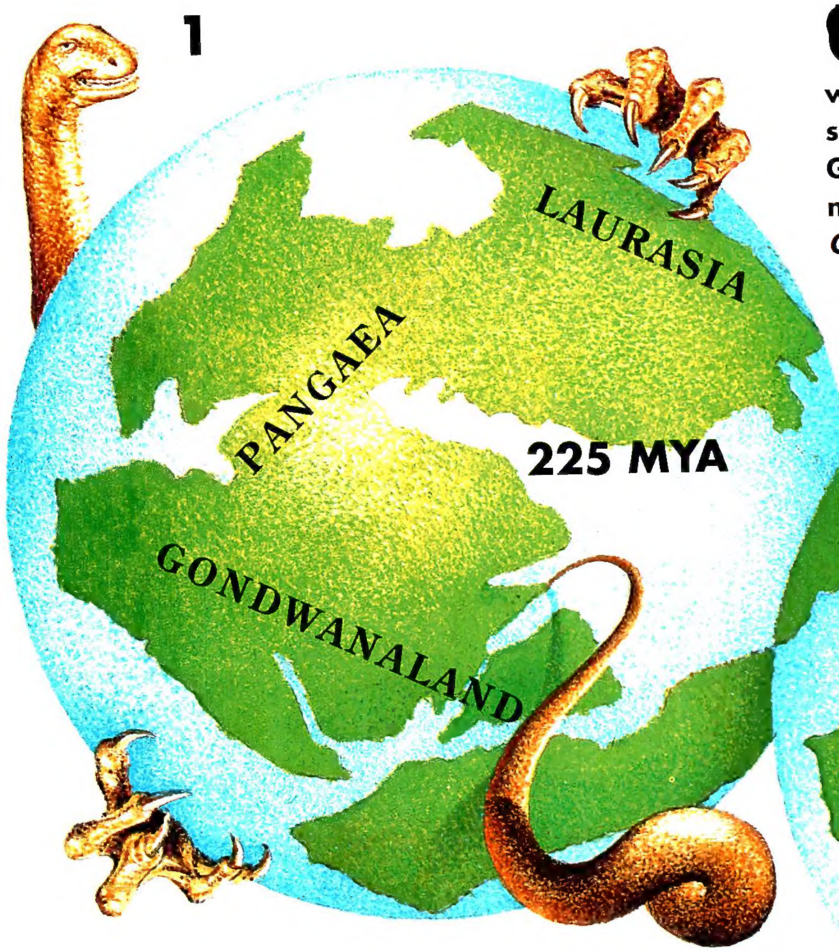
Velociraptor had a long head and a flat snout, with rows of sharp teeth for tearing at its victims.

FAST AND INTELLIGENT

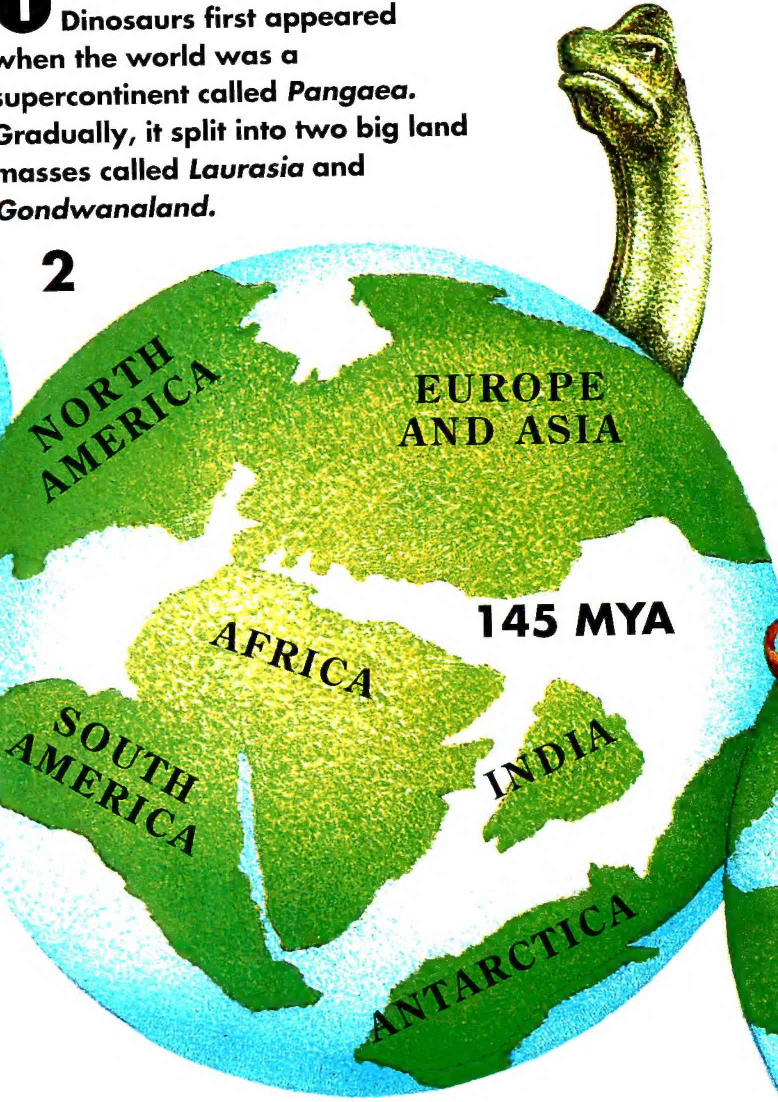
Before the discovery of *Velociraptor* in Mongolia in 1924, scientists had thought of dinosaurs as slow and stupid creatures. But *Velociraptor* was built for speed. It was also perhaps one of the most intelligent of all dinosaurs.

Earth on the move

Our planet has not always looked the way it does today. Hundreds of millions of years ago, the world was just one continent, surrounded by sea.



1 THE LATE TRIASSIC 225 MYA
Dinosaurs first appeared when the world was a supercontinent called *Pangaea*. Gradually, it split into two big land masses called *Laurasia* and *Gondwanaland*.



2 THE LATE JURASSIC 145 MYA
By this time the land masses had drifted further apart. The northern land mass included Asia and Europe which was joined to North America. This land mass was drifting northwards. What are now the separate continents of Africa and South America were joined together in one land mass that was drifting south.

Our Earth is a huge ball of rocks and metals, formed about 4,500 million years ago. For millions of years, it was so hot that the rocks and metals were liquid. Then, very slowly, the surface cooled down.

PLATES OF ROCK

The Earth's surface may look solid but it is cracked into enormous pieces called plates. These float on the hot rocks which lie under the crust. Over millions of years, some plates have bumped into each other.

ONE CONTINENT

About 200 million years ago, all the land was joined up into one huge continent, called *Pangaea* (Pan-jee-a). So dinosaurs could roam right round the Earth without crossing water.

SHIFTING PLATES

Slowly, over millions of years, the shifting plates began to pull this continent apart into two great land masses called *Laurasia* (Law-race-ia) and *Gondwanaland* (Gon-dwan-a-land).

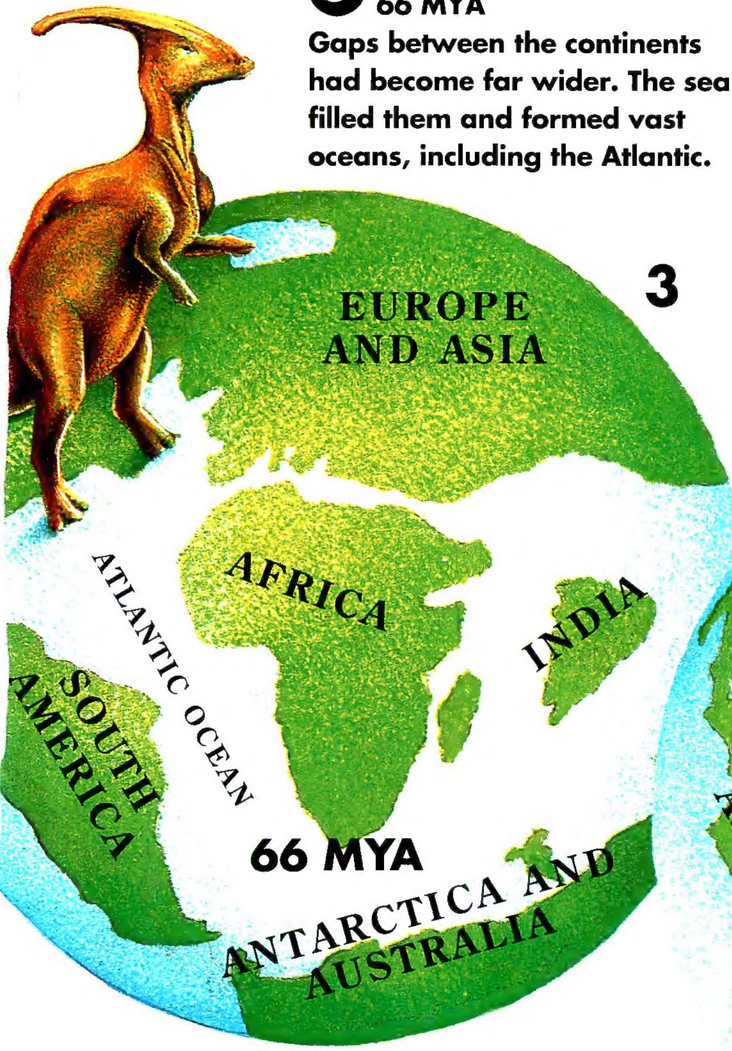
IT'S A FACT

STILL CHANGING

The map of the world will look very different millions of years in the future as the continents continue to move. North America and Russia are drifting towards each other and could even bump in about 50 million years time. The Atlantic Ocean is also growing wider by about 4cm a year.

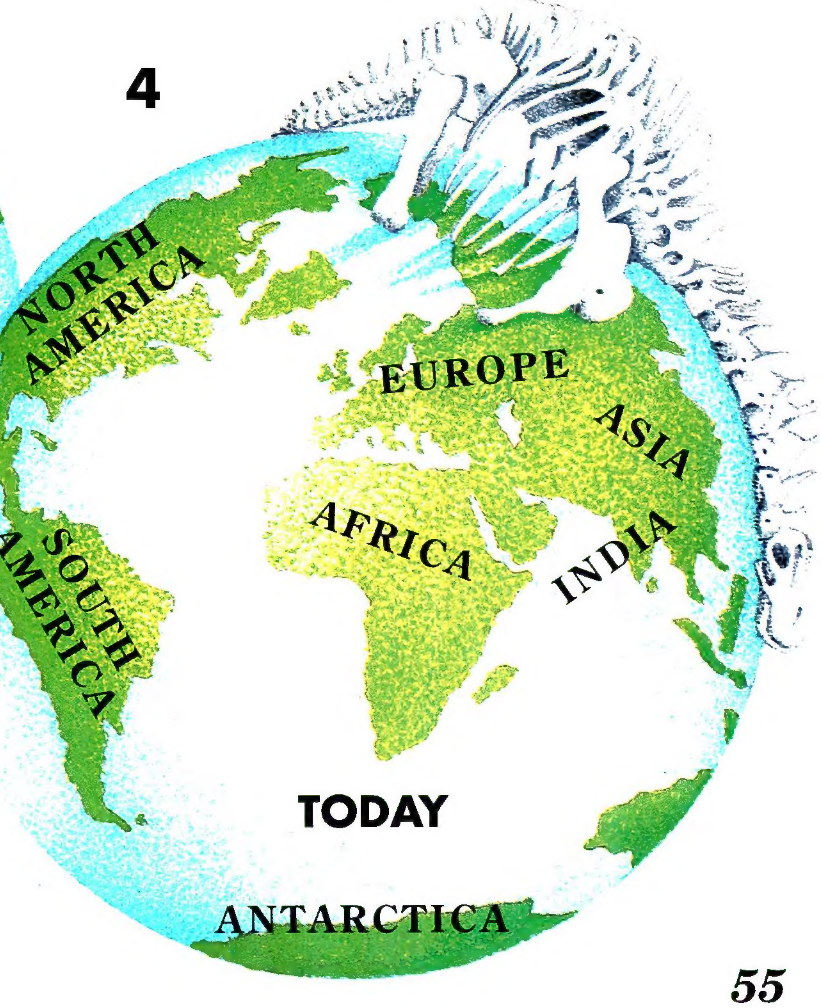
3 THE LATE CRETACEOUS 66 MYA

Gaps between the continents had become far wider. The sea filled them and formed vast oceans, including the Atlantic.



4 TWENTIETH-CENTURY EARTH

This is the world as we know it today, with wide stretches of ocean between the continents.

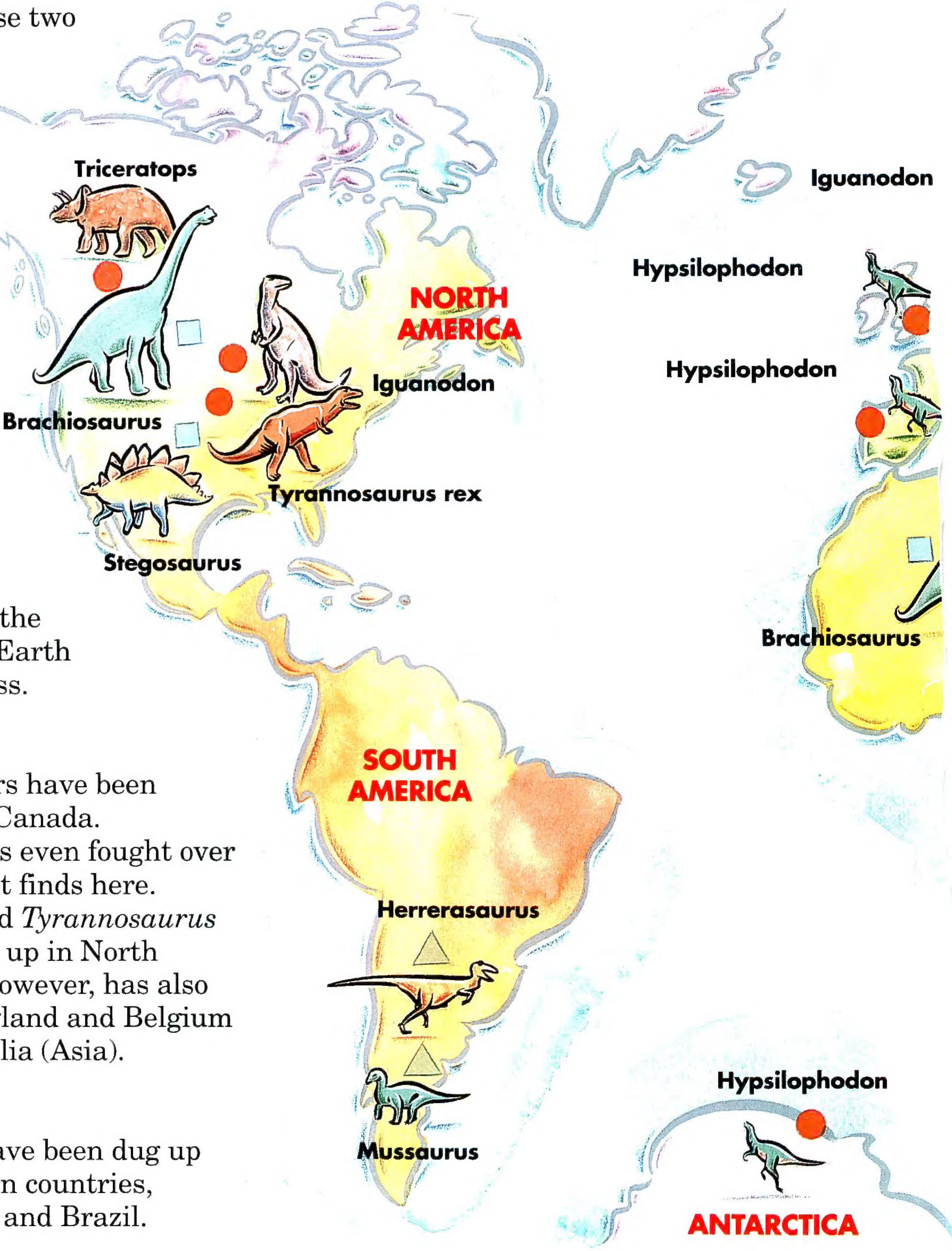


Dinosaur discoveries

Dinosaur remains have been found all over the world – usually by scientists on expeditions, but sometimes just by chance.

The map on these two pages shows where some of the hundreds of dinosaurs we know about were found.

Some have been dug up in places that are very far apart. *Brachiosaurus,* for example, has been discovered in North America, Tanzania (Africa) and Portugal (Europe). Dinosaurs, remember, could roam the whole world when the Earth was one great land mass.



NORTH AMERICA

- Hundreds of dinosaurs have been found in the USA and Canada.
- Early palaeontologists even fought over who had made the most finds here.
- So far, *Triceratops* and *Tyrannosaurus rex* have only been dug up in North America. *Iguanodon,* however, has also been discovered in England and Belgium (Europe) and in Mongolia (Asia).

SOUTH AMERICA

- Fossilized remains have been dug up in most South American countries, particularly Argentina and Brazil.

EUROPE

- Some of the first ever dinosaur finds were made in England. In 1824, the first dinosaur teeth were found in Oxfordshire.
- Dinosaurs continue to be discovered in England and France, either in quarries or by the sea.

AFRICA

- Many finds have been made in Africa. One of the tallest dinosaurs was dug up in Tanzania. It was a *Brachiosaurus* and is now on display in Berlin, Germany.

ASIA

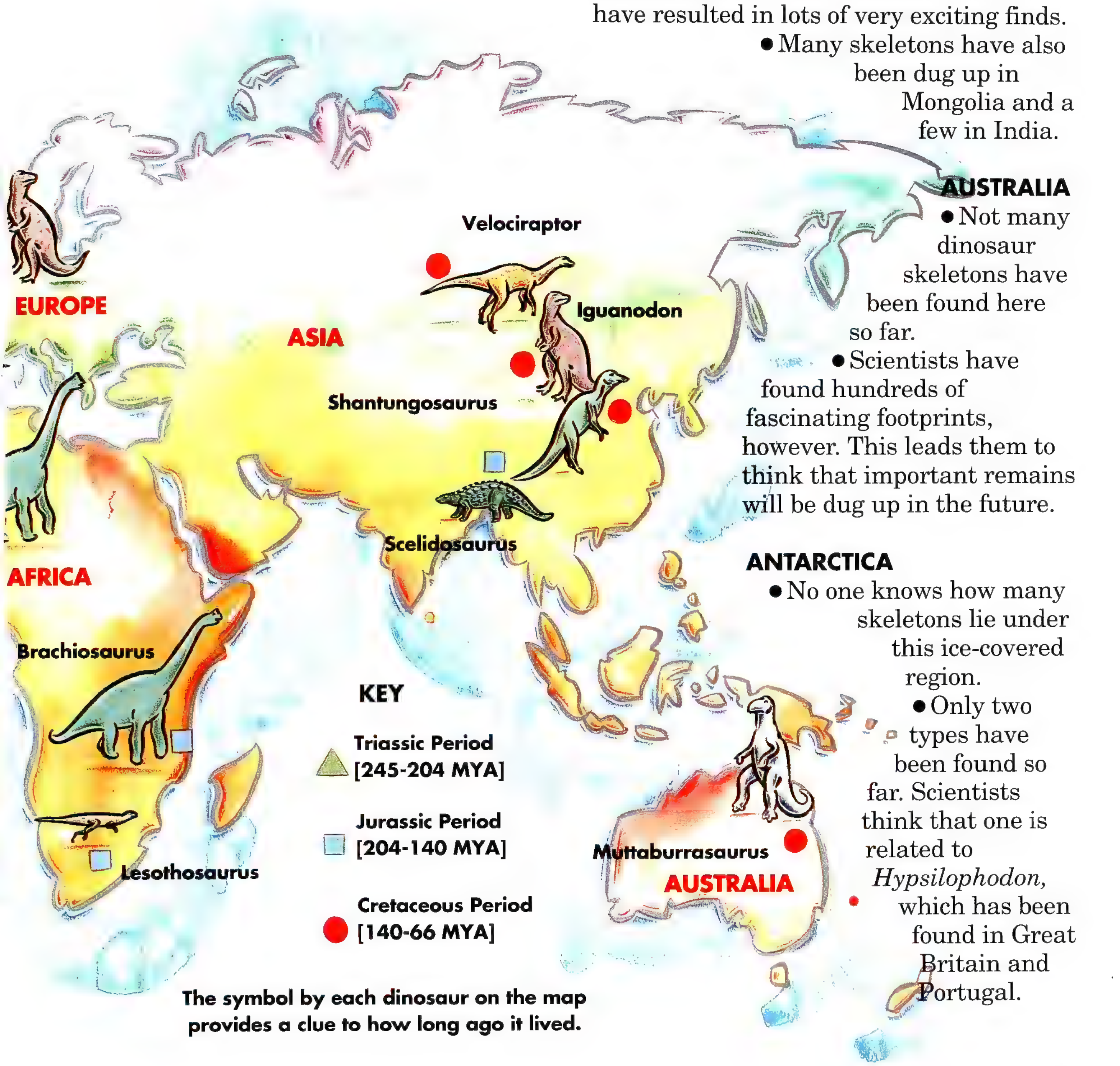
- Expeditions to remote parts of China have resulted in lots of very exciting finds.
- Many skeletons have also been dug up in Mongolia and a few in India.

AUSTRALIA

- Not many dinosaur skeletons have been found here so far.
- Scientists have found hundreds of fascinating footprints, however. This leads them to think that important remains will be dug up in the future.

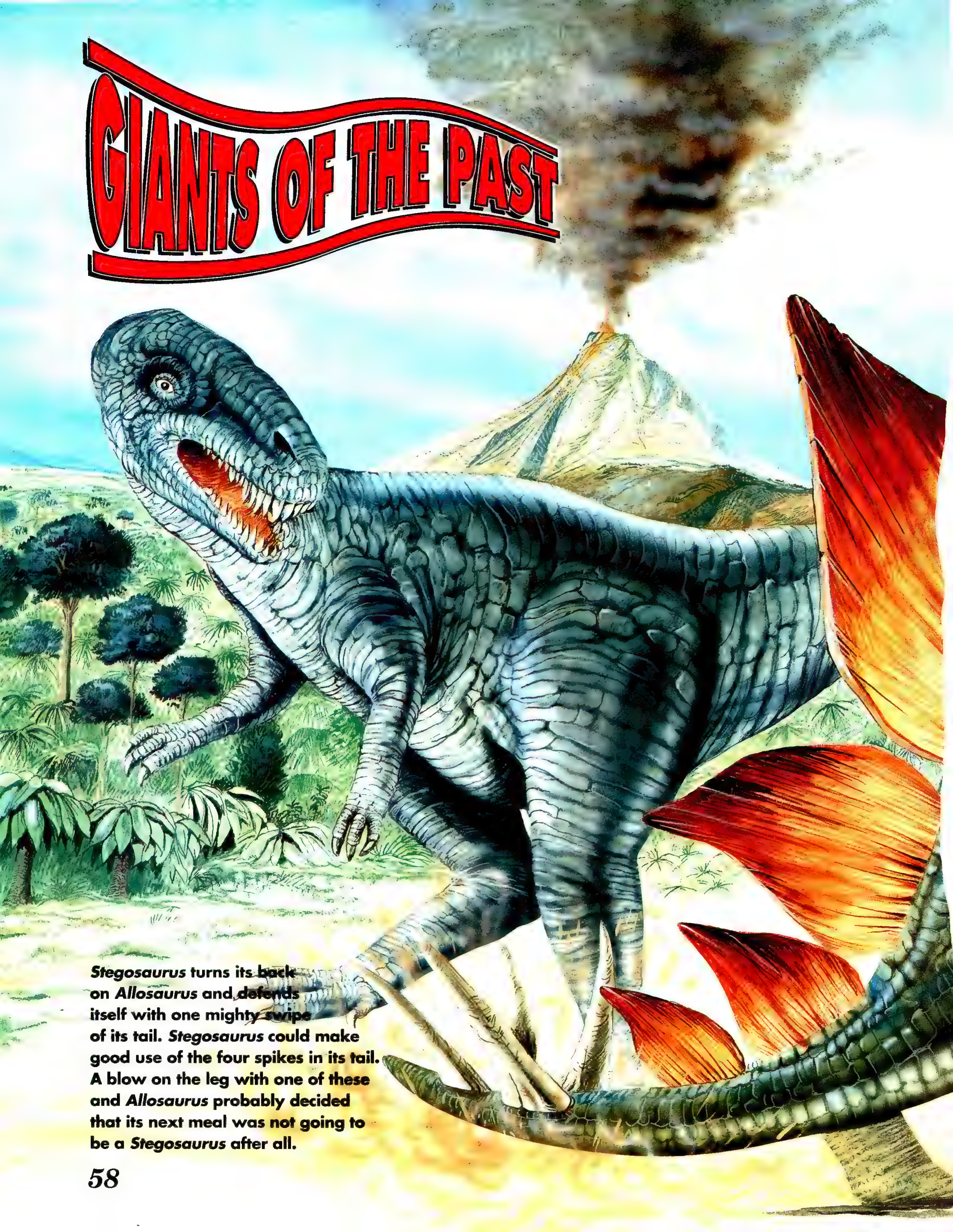
ANTARCTICA

- No one knows how many skeletons lie under this ice-covered region.
- Only two types have been found so far. Scientists think that one is related to *Hypsilophodon,* which has been found in Great Britain and Portugal.



The symbol by each dinosaur on the map provides a clue to how long ago it lived.

GIANTS OF THE PAST



Stegosaurus **turns its back on** ***Allosaurus*** **and defends itself with one mighty swipe of its tail.** ***Stegosaurus*** **could make good use of the four spikes in its tail. A blow on the leg with one of these and** ***Allosaurus*** **probably decided that its next meal was not going to be a** ***Stegosaurus*** **after all.**

STEGOSAURUS

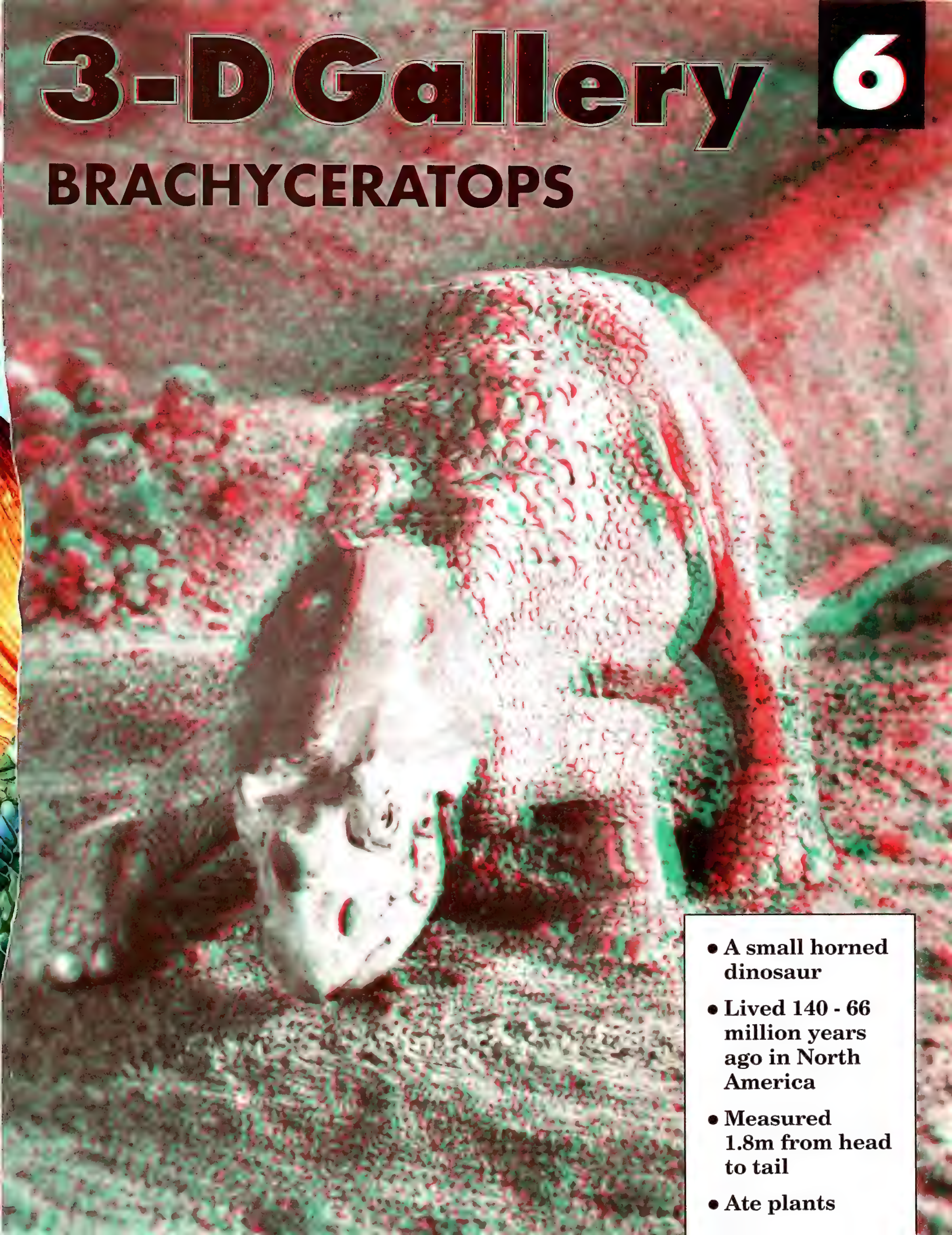
3-D Gallery 5

CORYTHOSAURUS

- A duck-billed dinosaur
- Lived 140 - 66 million years ago in North America
- Measured 10m long from head to tail
- Ate plants

3-D Gallery 6

BRACHYCERATOPS



- A small horned dinosaur
- Lived 140 - 66 million years ago in North America
- Measured 1.8m from head to tail
- Ate plants

More shapes and sizes

Many dinosaurs were remarkably different in how they looked and also how they behaved.

Some dinosaurs – *Styracosaurus,* for example – looked a bit like a rhinoceros. *Psittacosaurus* had a beak rather like a parrot's. *Pachycephalosaurus* fought head to head like today's mountain sheep, but had a thick skull instead of horns.

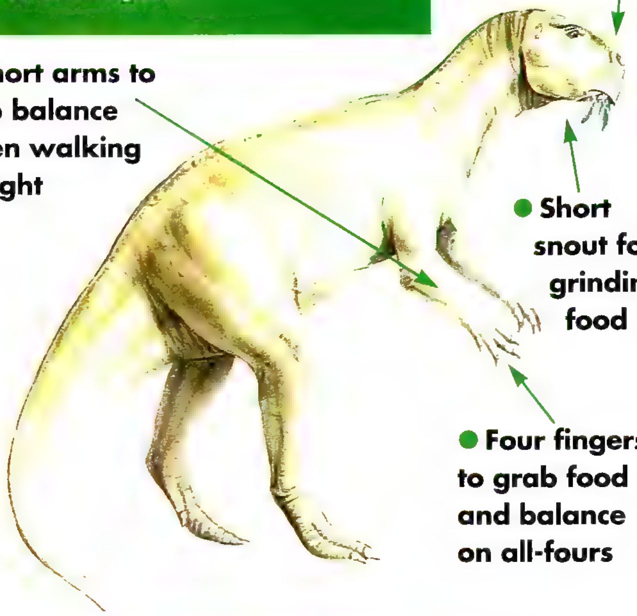
FOUR-FINGERED AND BEAKED

Psittacosaurus (si-tak-oh-saw-rus) was given a name that means 'parrot-reptile' because it had a sharp, horny beak at the front of its mouth for slicing through plants. This dinosaur had long back legs but shorter arms, with four long fingers. It may have walked on all-fours at times.

FOUR-FINGERED AND BEAKED

Psittacosaurus

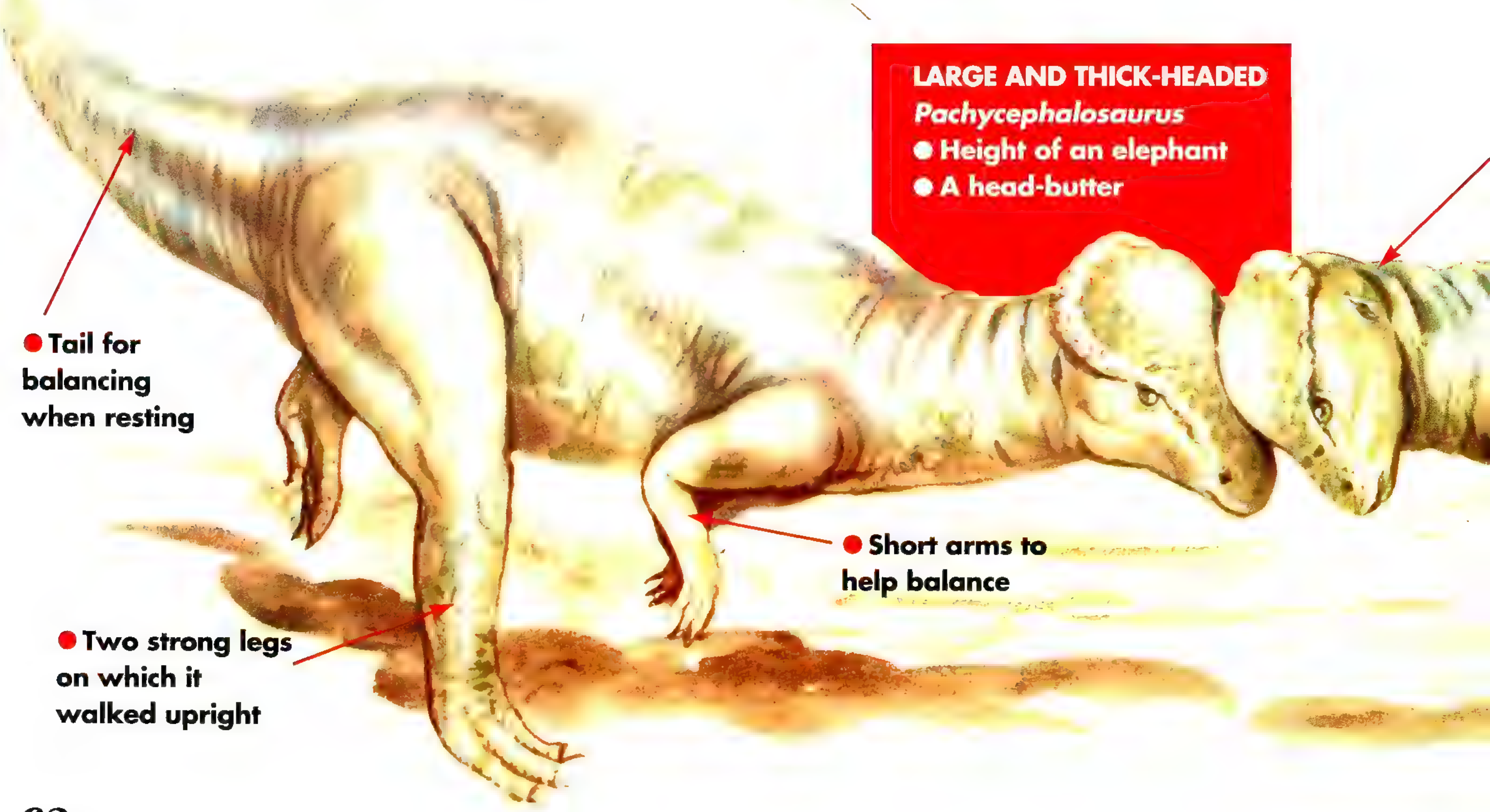
- **Almost as tall as a man**
- **Long, clawed fingers**
- **A ceratopian**


● Horny beak for slicing through thick plants
● Short arms to help balance when walking upright
● Short snout for grinding food
● Four fingers to grab food and balance on all-fours

LARGE AND THICK-HEADED

Pachycephalosaurus

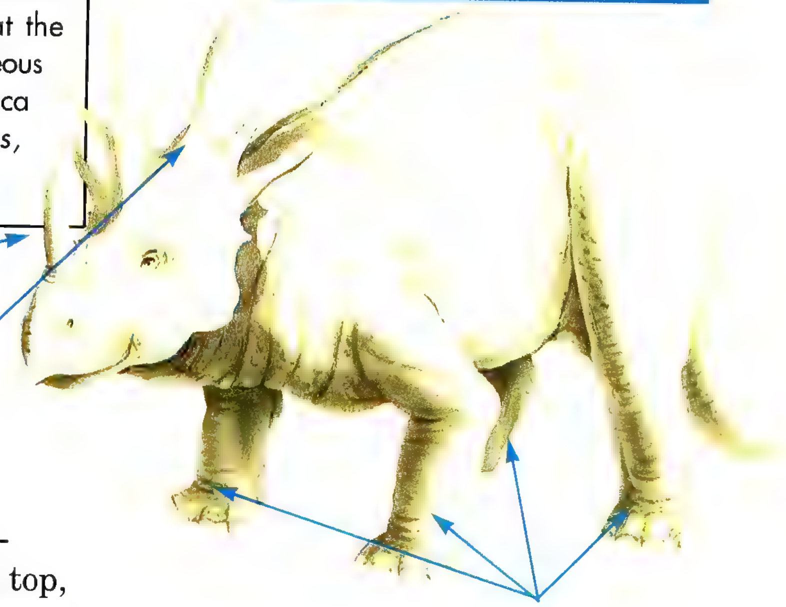
- **Height of an elephant**
- **A head-butter**


● Tail for balancing when resting
● Short arms to help balance
● Two strong legs on which it walked upright

What is? A CERATOPIAN

Ceratopians were herbivores. Many looked like rhinoceroses, with sturdy bodies and horned faces. However, ceratopians had curved beaks at the front of their jaws. They lived in the Cretaceous Period, and have been found in North America and Asia. They included *Triceratops*, *Styracosaurus* and *Psittacosaurus*.

HORNED AND SPIKED
Styracosaurus
- **Taller than a man**
- **Walked on all-fours**



- **Nose horn for defence**
- **Long spikes on frill to attract mate and frighten off rivals**
- **Four sturdy legs for galloping**

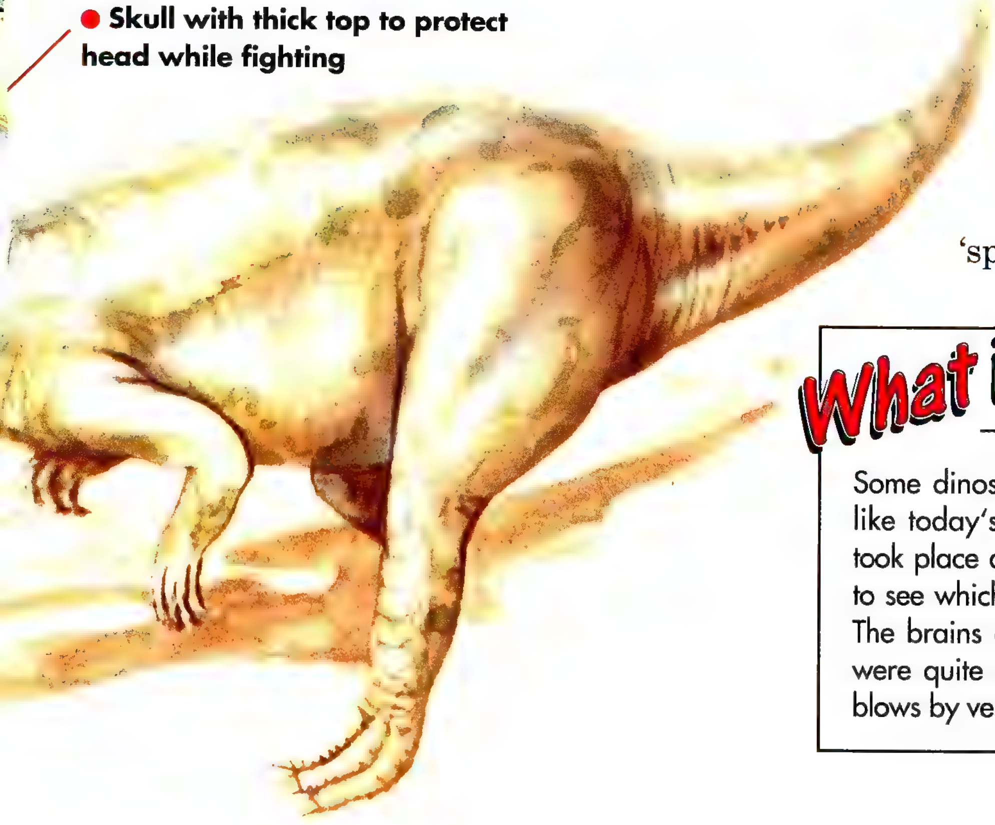
LARGE AND THICK-HEADED

Pachycephalosaurus (pak-ee-kef-al-oh-saw-rus) had a skull with a very thick top, decorated with knobs and spikes. It may have used these as weapons for head-butting fights with other members of its species. It walked upright, and used its tail to balance on when resting.

HORNED AND SPIKED

Styracosaurus (sty-rak-oh-saw-rus) had a large horn on its nose, and a spiky frill around its neck. These were probably used to warn off enemies and rivals, and to attract mates. This plant-eating dinosaur was a ceratopian and was related to *Triceratops*. Its name means 'spiked reptile'.

- **Skull with thick top to protect head while fighting**



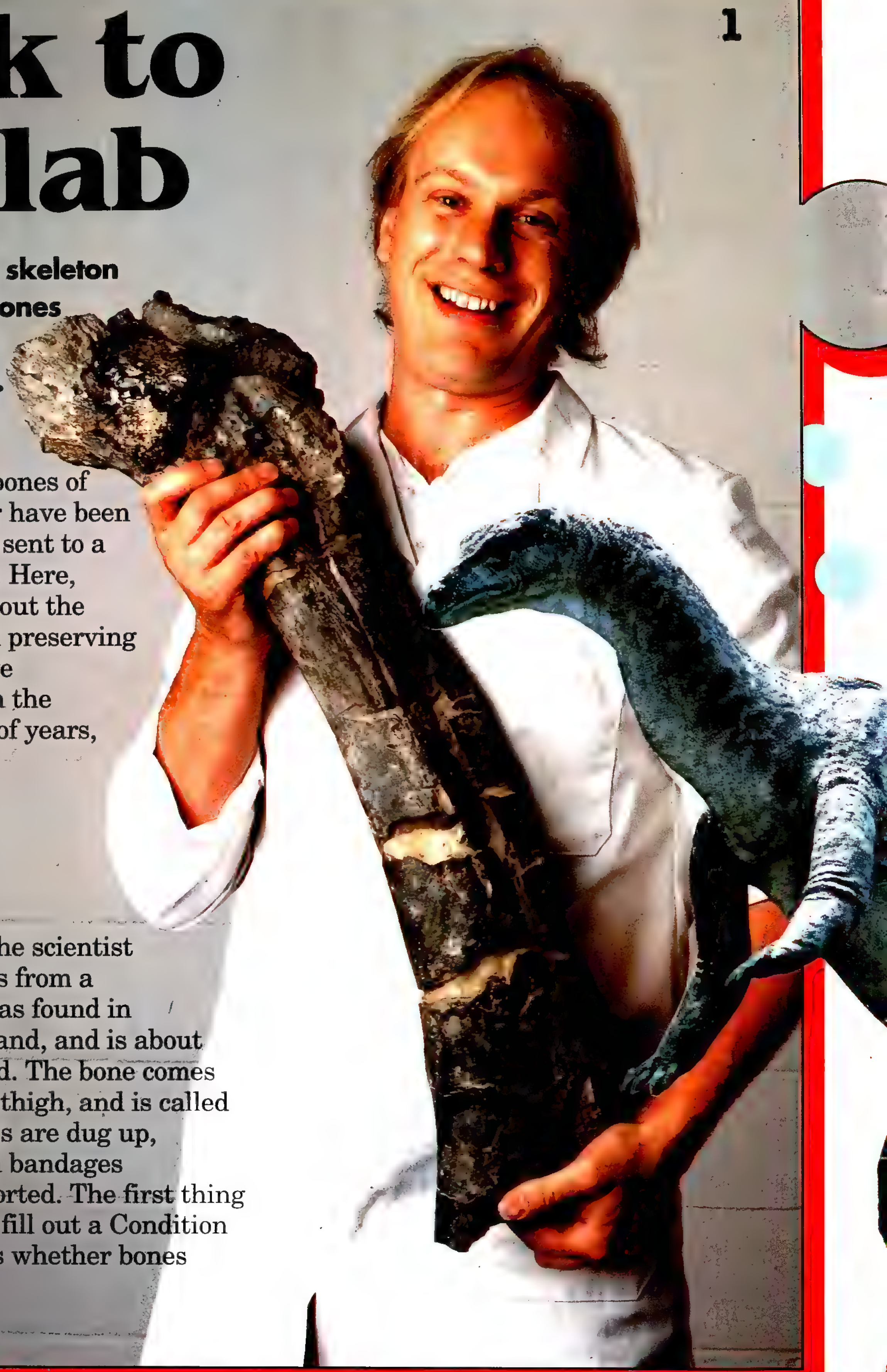
What is? HEAD-BUTTING

Some dinosaurs clashed in head-to-head battles like today's mountain sheep. This head-butting took place among males. It was a test of strength to see which would lead the herd or win a mate. The brains of dinosaurs like *Pachycephalosaurus* were quite small and were protected from head blows by very thick bone on the top of the skull.

Back to the lab

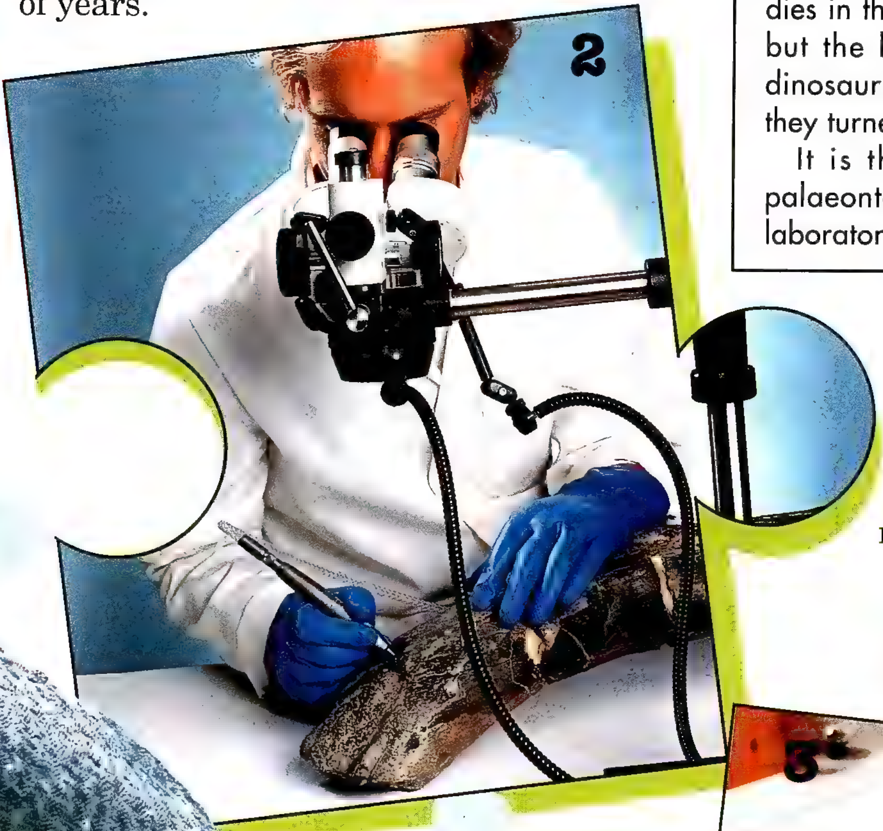
Before a dinosaur skeleton can be built, the bones must be carefully cleaned in the lab.

After the bones of a dinosaur have been dug up, they will be sent to a scientific laboratory. Here, scientists can set about the task of cleaning and preserving the bones. They have been buried beneath the ground for millions of years, and need a lot of looking after.



1 The bone that the scientist is holding comes from a *Camptosaurus*. It was found in Peterborough, England, and is about 140 million years old. The bone comes from the dinosaur's thigh, and is called a femur. When bones are dug up, they are wrapped in bandages before being transported. The first thing the scientist does is fill out a Condition Report. This records whether bones are damaged.

2 Most of the scientist's work is done whilst looking through a microscope at the bone. He uses a pneumatic pen, which acts like a mini road-drill and breaks away the rock from around the bone. The rock around the bone is called the matrix. A lot of it may have become stuck to the bone over many millions of years.

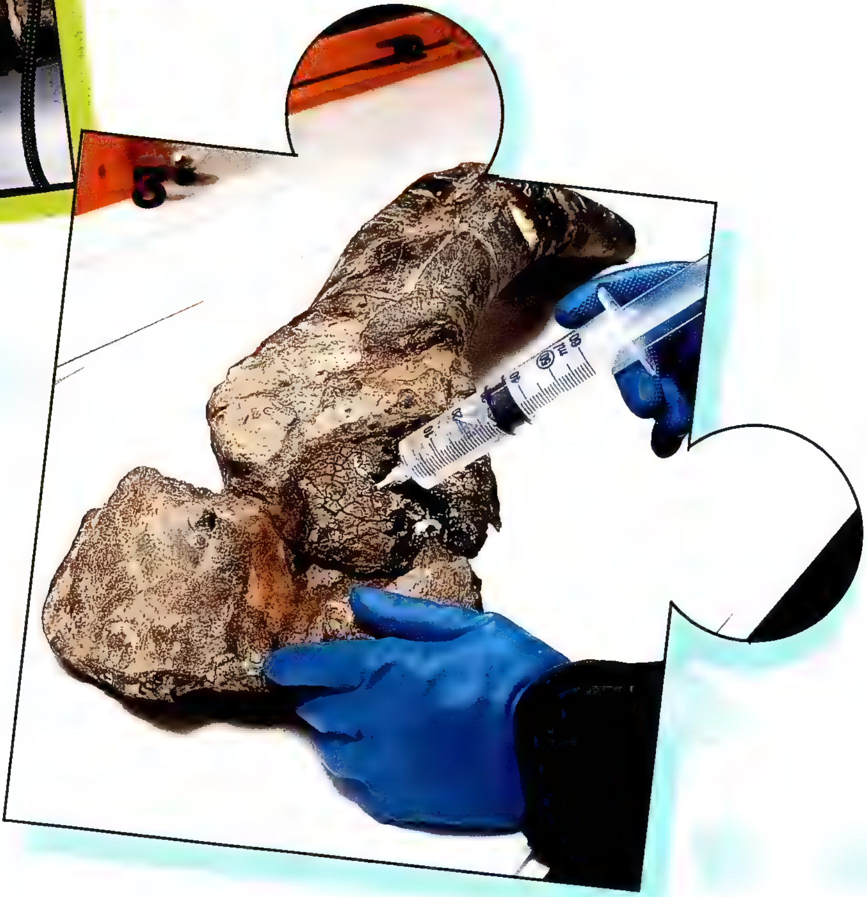


What is? FOSSILIZED BONE

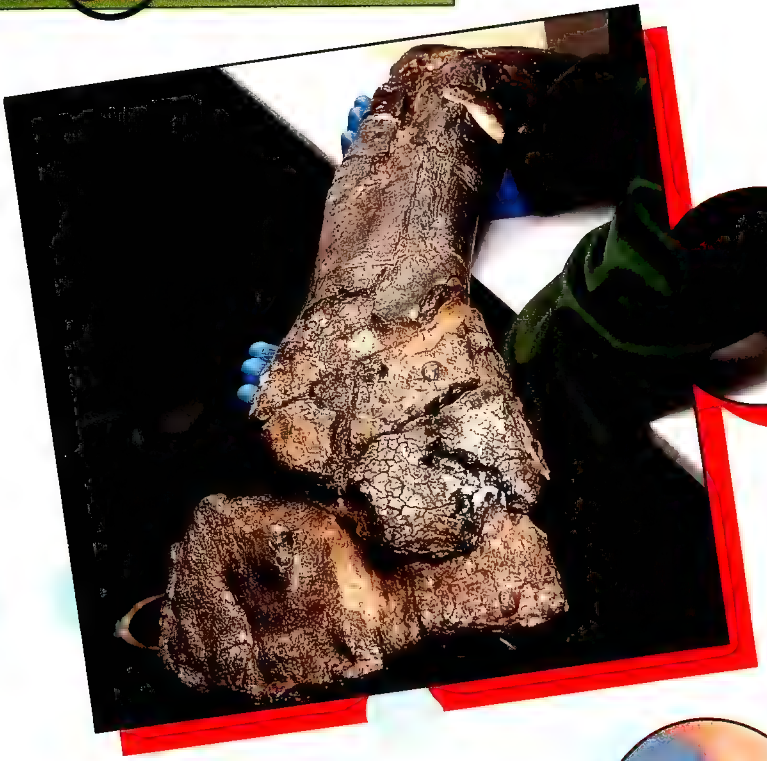
Bone is hard material that makes up an animal's skeleton. It is also a living substance that begins to grow when a baby animal is still developing inside an egg. When an animal dies in the wild, its flesh is eaten or rots away, but the bones remain. This happened with dinosaur bones, too. Over millions of years, they turned into a kind of rock.

It is these remains that are dug up by palaeontologists and then taken back to the laboratory to be cleaned.

3 The scientist injects a special glue into the rock to stop it breaking. Any gaps in the rock will also be filled to make sure the fossil does not fall apart.



***Camptosaurus* would rear up on its solid back legs to feed from trees.**

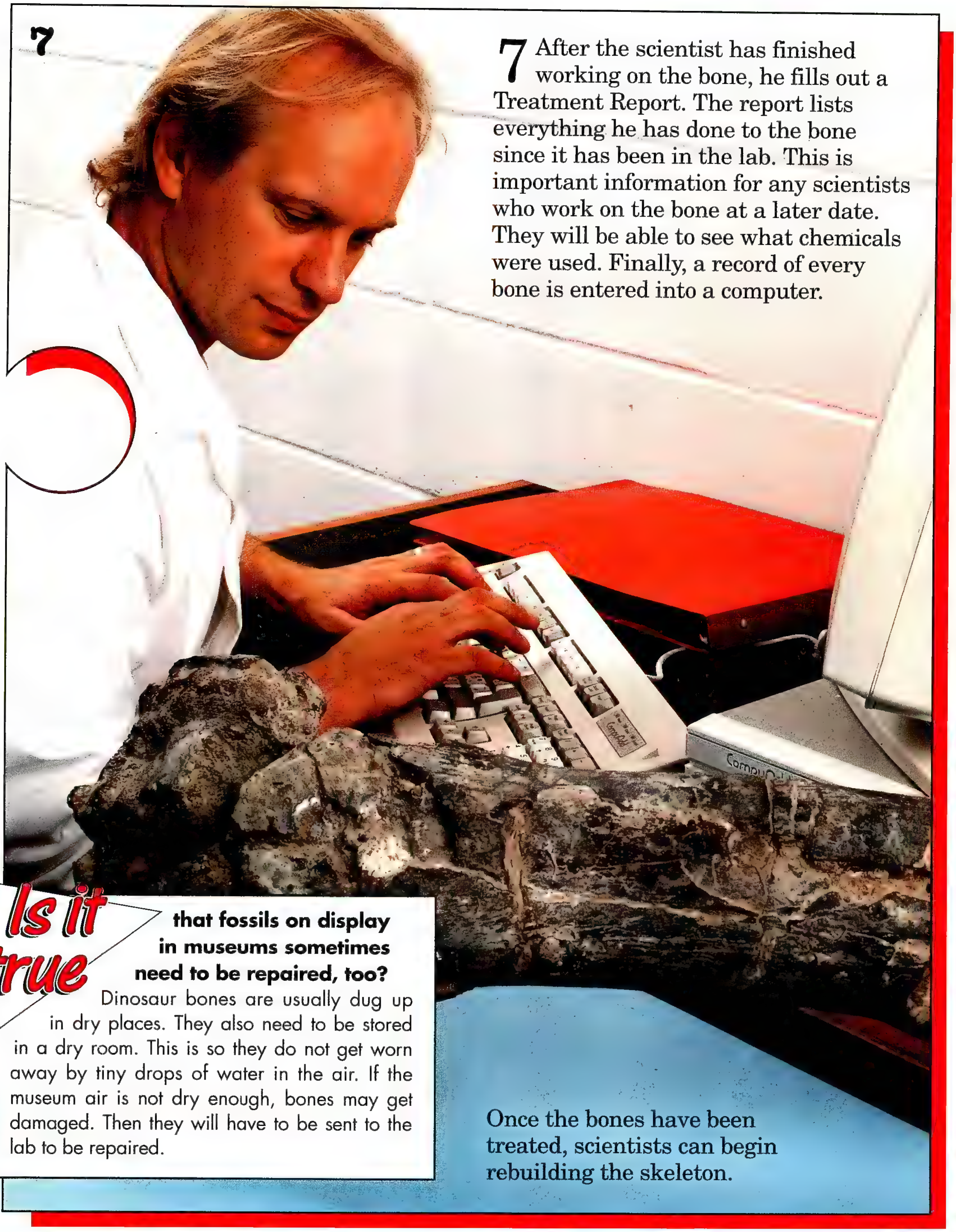


4 An acid preparation sink, or acid bath, may also sometimes be used for stripping off layers of matrix that are hard to remove in any other way. The scientist wears protective gloves to save his hands being burned by acid.

5 Taking care of a dinosaur bone is a very delicate job. The scientist brushes away pieces of dust from the surface. For very dirty bones, the scientist may dip the brush in water or use a mild detergent.

6 The next stage in the cleaning and preparing process involves using an air abrasive machine. This machine takes off very tiny amounts of rock without damaging the bone beneath.

7



7 After the scientist has finished working on the bone, he fills out a Treatment Report. The report lists everything he has done to the bone since it has been in the lab. This is important information for any scientists who work on the bone at a later date. They will be able to see what chemicals were used. Finally, a record of every bone is entered into a computer.

Is it true that fossils on display in museums sometimes need to be repaired, too?

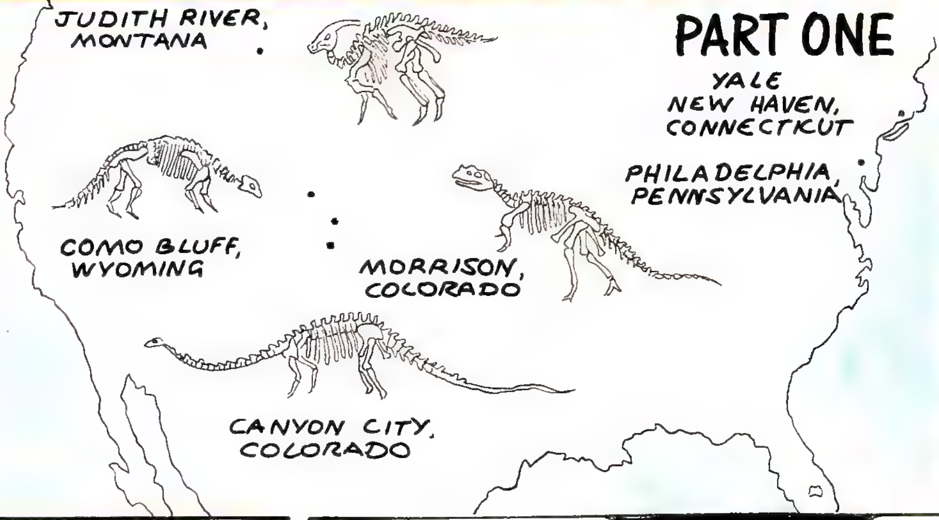
Dinosaur bones are usually dug up in dry places. They also need to be stored in a dry room. This is so they do not get worn away by tiny drops of water in the air. If the museum air is not dry enough, bones may get damaged. Then they will have to be sent to the lab to be repaired.

Once the bones have been treated, scientists can begin rebuilding the skeleton.

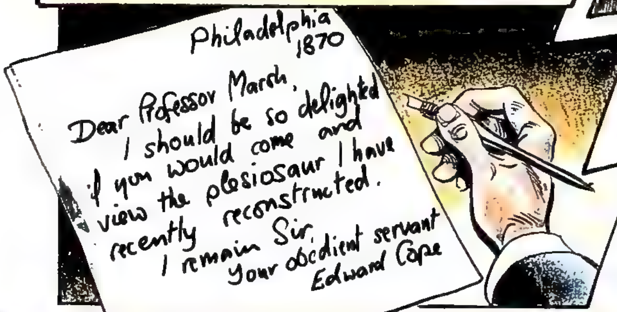
THE BONE WARS

PART ONE

THERE WERE MANY AMAZING DISCOVERIES OF DINOSAUR BONES IN AMERICA DURING THE 1870s. THE RACE TO FIND NEW TYPES OF DINOSAUR GREW SO INTENSE THAT THE RIVALRY BETWEEN PALAEONTOLOGISTS BECAME KNOWN AS **'THE BONE WARS'**.



THE FEUD BETWEEN THE TWO MEN BEGAN IN 1870. COPE PIECED TOGETHER THE SKELETON OF A STRANGE PLESIOSAUR. HE CALLED IT **ELASMOSAURUS** (MEANING 'PLATED REPTILE') AND WROTE TO MARSH, INVITING HIM TO COME AND SEE IT.



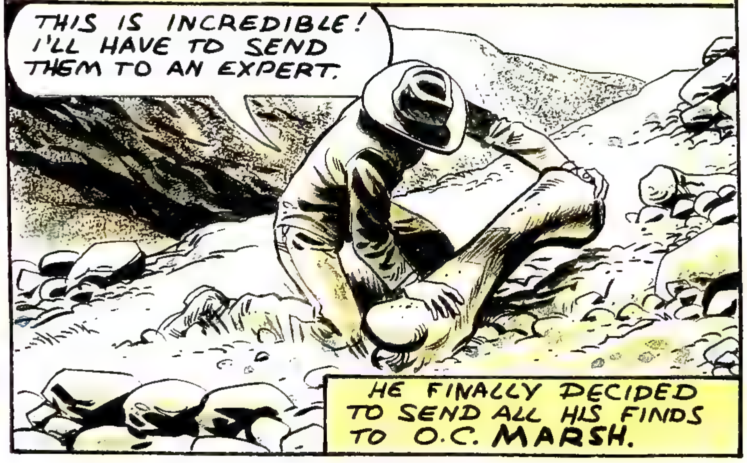
Philadelphia
1870

Dear Professor Marsh,
I should be so delighted
if you would come and
view the plesiosaur I have
recently reconstructed.
I remain Sir,
Your obedient servant
Edward Cope

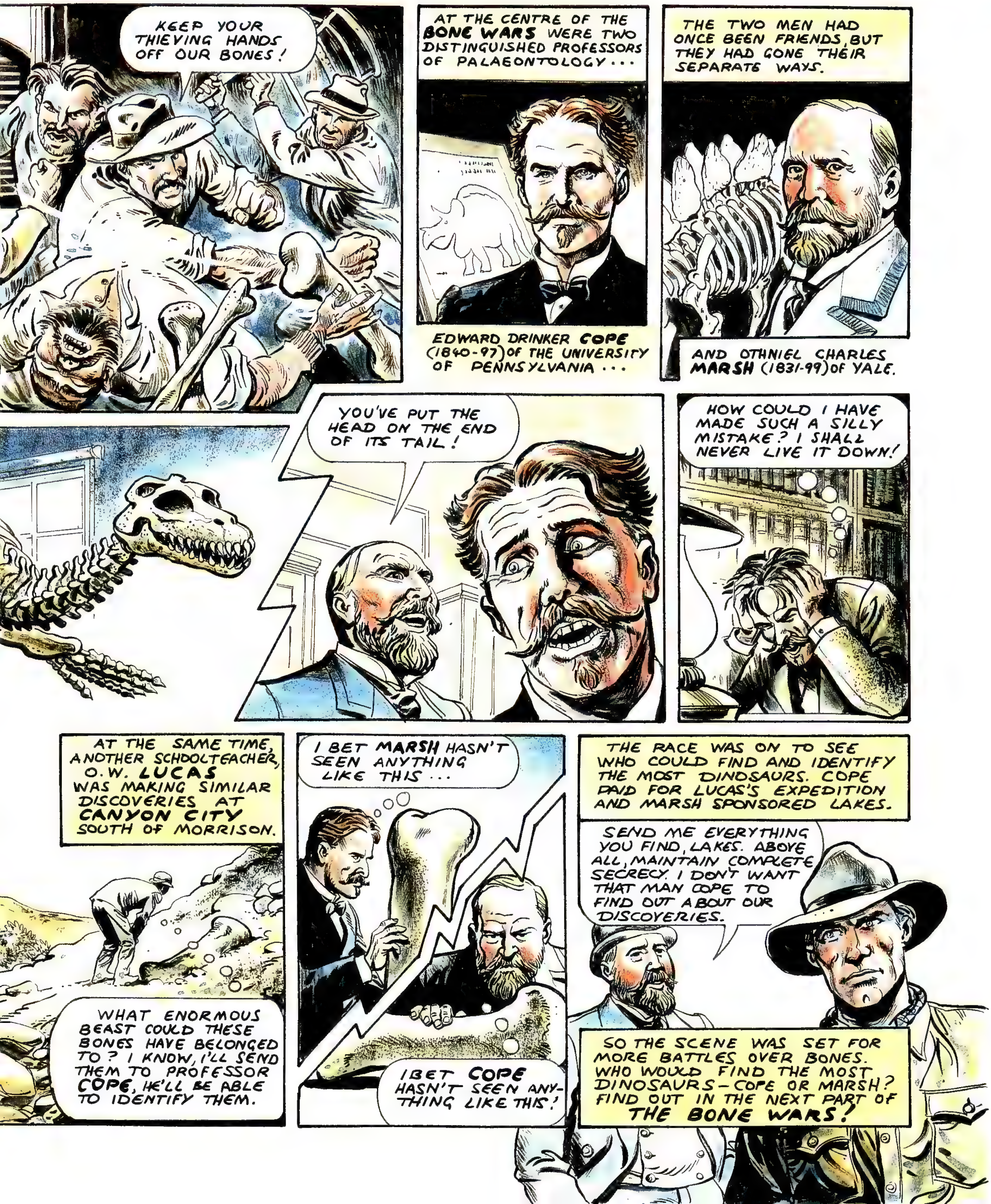
IT'S A SPLENDID CREATURE, COPE. BUT THERE'S JUST ONE THING...
WHAT'S THAT?

MEANWHILE, NEWS WAS ARRIVING FROM THE WEST. PILES OF ENORMOUS DINOSAUR BONES WERE BEING FOUND. IN ONE PLACE, A SHEPHERD HAD EVEN MADE A HUT FROM THE BONES OF A HUGE DINOSAUR. IT WASN'T LONG BEFORE BONE HUNTERS HEARD THE NEWS AND RUSHED TO THE SCENE.

IN 1877, A SCHOOLTEACHER NAMED ARTHUR **LAKES** FOUND SOME HUGE BONES NEAR A TOWN CALLED **MORRISON** IN THE STATE OF COLORADO.


THIS IS INCREDIBLE! I'LL HAVE TO SEND THEM TO AN EXPERT.

HE FINALLY DECIDED TO SEND ALL HIS FINDS TO O.C. **MARSH**.


KEEP YOUR THIEVING HANDS OFF OUR BONES!
AT THE CENTRE OF THE **BONE WARS** WERE TWO DISTINGUISHED PROFESSORS OF PALAEONTOLOGY...
EDWARD DRINKER **COPE** (1840-97) OF THE UNIVERSITY OF PENNSYLVANIA...
THE TWO MEN HAD ONCE BEEN FRIENDS, BUT THEY HAD GONE THEIR SEPARATE WAYS.
AND OTHNIEL CHARLES **MARSH** (1831-99) OF YALE.
YOU'VE PUT THE HEAD ON THE END OF ITS TAIL!
HOW COULD I HAVE MADE SUCH A SILLY MISTAKE? I SHALL NEVER LIVE IT DOWN!
AT THE SAME TIME, ANOTHER SCHOOLTEACHER, O.W. **LUCAS** WAS MAKING SIMILAR DISCOVERIES AT **CANYON CITY** SOUTH OF MORRISON.
WHAT ENORMOUS BEAST COULD THESE BONES HAVE BELONGED TO? I KNOW, I'LL SEND THEM TO PROFESSOR **COPE**, HE'LL BE ABLE TO IDENTIFY THEM.
I BET **MARSH** HASN'T SEEN ANYTHING LIKE THIS...
I BET **COPE** HASN'T SEEN ANYTHING LIKE THIS!
THE RACE WAS ON TO SEE WHO COULD FIND AND IDENTIFY THE MOST DINOSAURS. COPE PAID FOR LUCAS'S EXPEDITION AND MARSH SPONSORED LAKES.
SEND ME EVERYTHING YOU FIND, LAKES. ABOVE ALL, MAINTAIN COMPLETE SECRECY. I DON'T WANT THAT MAN COPE TO FIND OUT ABOUT OUR DISCOVERIES.
SO THE SCENE WAS SET FOR MORE BATTLES OVER BONES. WHO WOULD FIND THE MOST DINOSAURS – COPE OR MARSH? FIND OUT IN THE NEXT PART OF **THE BONE WARS!**

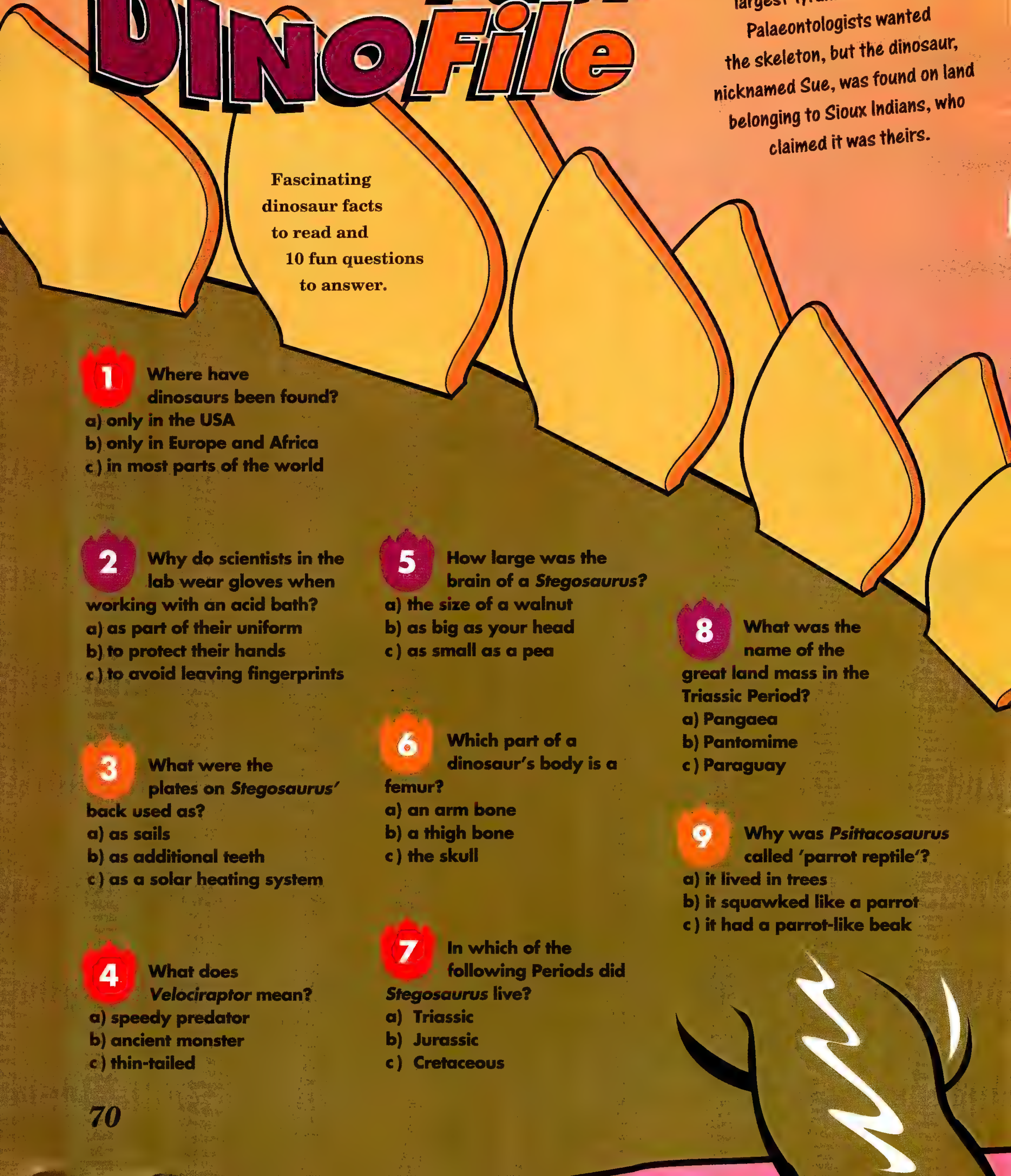
Improve and test your knowledge with...

DINO Fact File

Fascinating dinosaur facts to read and 10 fun questions to answer.

Battle over Sue

In 1990, in South Dakota, USA, a quarrel broke out over the world's largest Tyrannosaurus rex. Palaeontologists wanted the skeleton, but the dinosaur, nicknamed Sue, was found on land belonging to Sioux Indians, who claimed it was theirs.



1 Where have dinosaurs been found?
a) only in the USA
b) only in Europe and Africa
c) in most parts of the world

2 Why do scientists in the lab wear gloves when working with an acid bath?
a) as part of their uniform
b) to protect their hands
c) to avoid leaving fingerprints

3 What were the plates on *Stegosaurus'* back used as?
a) as sails
b) as additional teeth
c) as a solar heating system

4 What does *Velociraptor* mean?
a) speedy predator
b) ancient monster
c) thin-tailed

5 How large was the brain of a *Stegosaurus?*
a) the size of a walnut
b) as big as your head
c) as small as a pea

6 Which part of a dinosaur's body is a femur?
a) an arm bone
b) a thigh bone
c) the skull

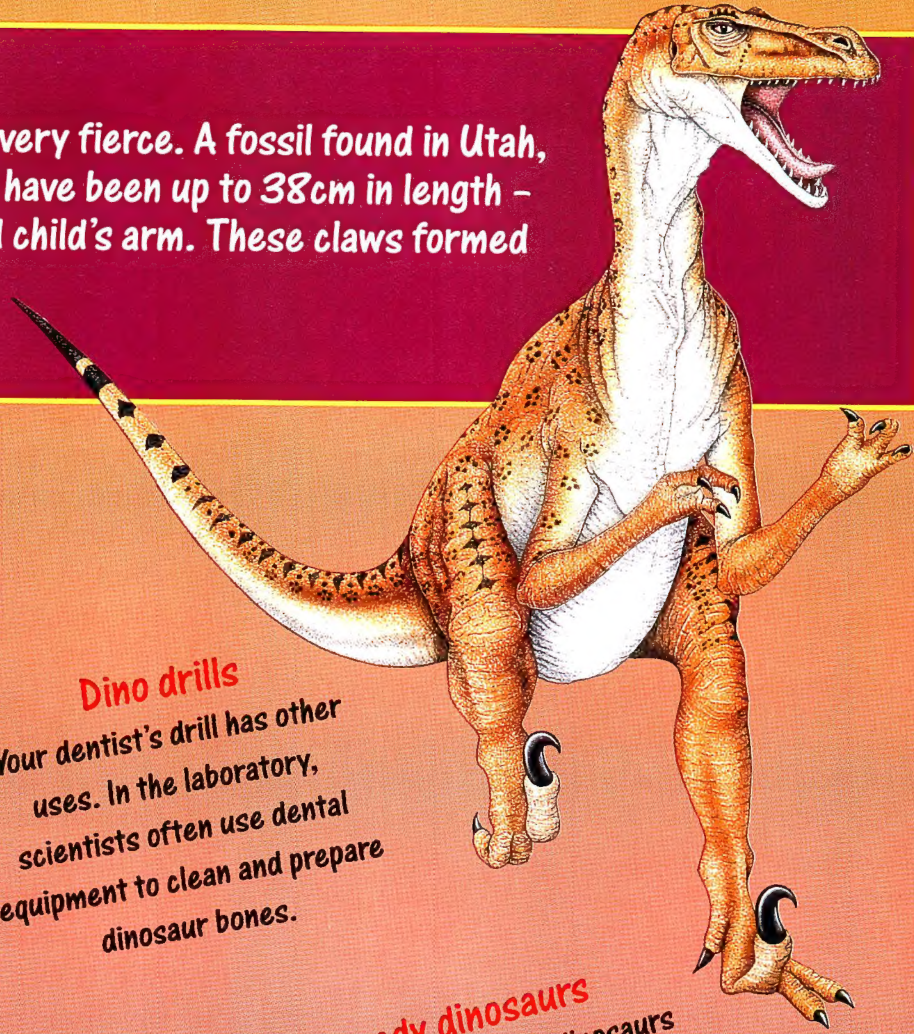
7 In which of the following Periods did *Stegosaurus* live?
a) Triassic
b) Jurassic
c) Cretaceous

8 What was the name of the great land mass in the Triassic Period?
a) Pangaea
b) Pantomime
c) Paraguay

9 Why was *Psittacosaurus* called 'parrot reptile'?
a) it lived in trees
b) it squawked like a parrot
c) it had a parrot-like beak

Vicious claws

Velociraptor was probably very fierce. A fossil found in Utah, USA, shows its claws may have been up to 38cm in length – as long as a three-year-old child's arm. These claws formed very effective hooks with which to hold on to prey.



The oldest yet

Scientists in Argentina, South America, claim to have found the world's oldest dinosaur. This creature, called Herrerasaurus, is said to be 230 million years old.

Dino drills

Your dentist's drill has other uses. In the laboratory, scientists often use dental equipment to clean and prepare dinosaur bones.

Broken legs

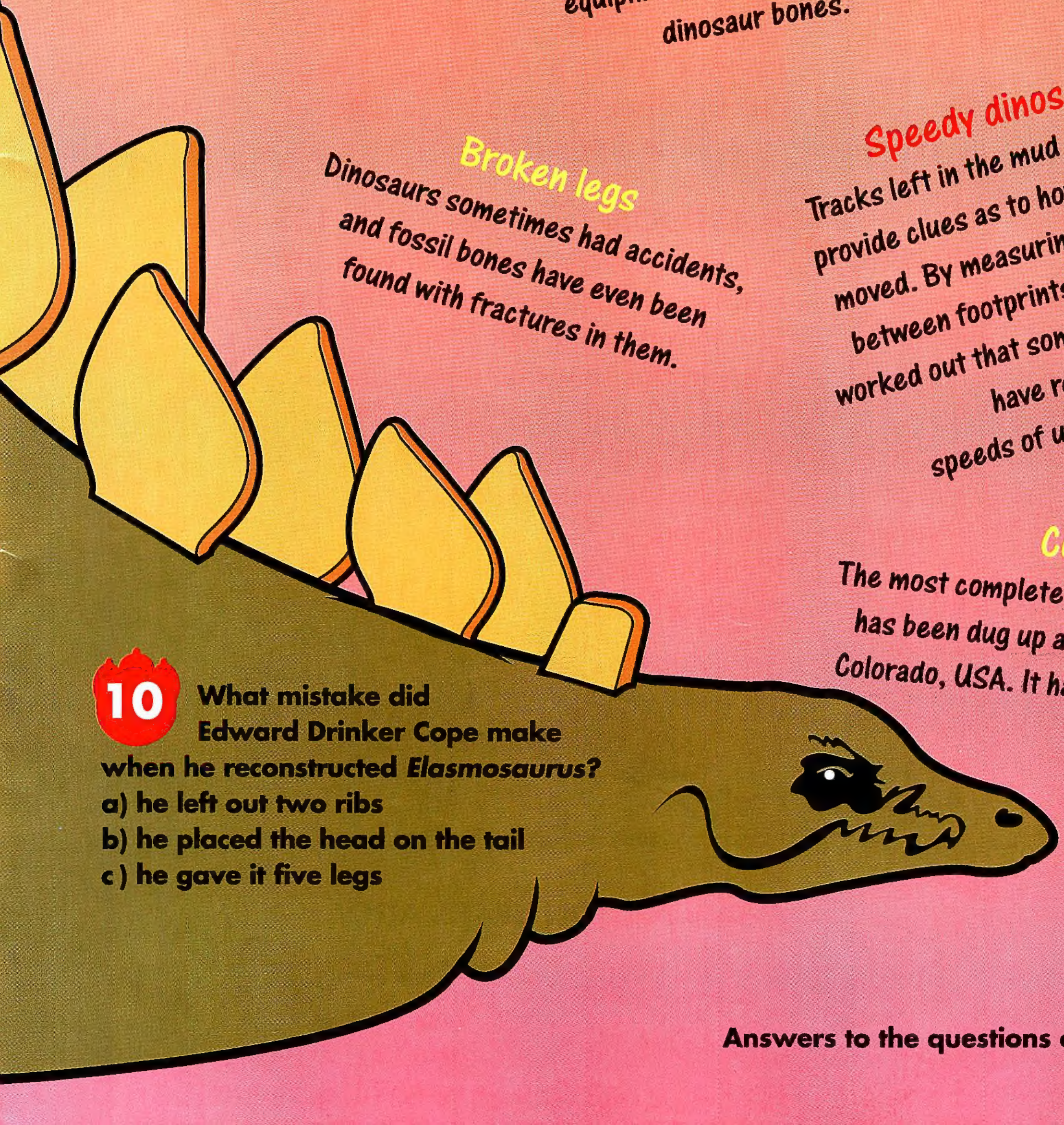
Dinosaurs sometimes had accidents, and fossil bones have even been found with fractures in them.

Speedy dinosaurs

Tracks left in the mud by dinosaurs provide clues as to how quickly they moved. By measuring the distance between footprints, experts have worked out that some dinosaurs could have reached speeds of up to 40 km/h.

Complete skeleton

The most complete skeleton of a Stegosaurus ever found has been dug up at the foot of the Rocky Mountains in Colorado, USA. It had to be hauled out of the earth by an army helicopter.



10 What mistake did Edward Drinker Cope make when he reconstructed *Elasmosaurus*?

a) he left out two ribs

b) he placed the head on the tail

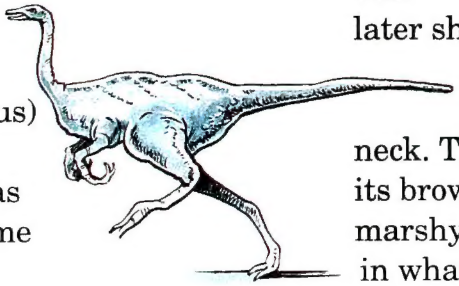
c) he gave it five legs

ARALOSAURUS **80 MYA**

This dinosaur was named after the place where it was first found – the Aral Sea in central Asia. *Aralosaurus* (a-ral-oh-saw-rus) was a duck-billed dinosaur that had a small bump in front of its eyes.

ARCHAEORNITHOMIMUS **95 MYA**

This creature was first found in Mongolia during an expedition in the 1920s. *Archaeornithomimus* (ar-kee-or-ni-tho-mime-us) had strong claws on its fingers and toes, and was about 3.5m long. Its name means 'ancient bird mimic'.



ARCTOSAURUS **200 MYA**

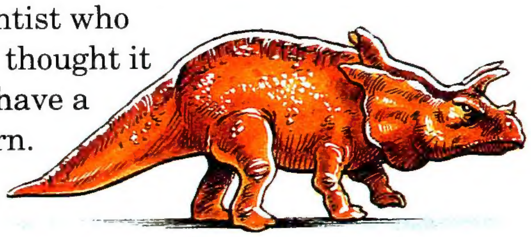
Arctosaurus (ark-toh-saw-rus) means 'Arctic lizard'. It was found on Cameron Island, Canada, north of the Arctic Circle. *Arctosaurus* was a small, meat-eating dinosaur, which lived in the Late Triassic Period. When its bones were first found, scientists thought they belonged to a turtle.

ARISTOSUCHUS **120 MYA**

Aristosuchus (a-ris-toh-soo-kus) was found on the Isle of Wight, off the south coast of England. It was a meat-eating dinosaur, but probably did not itself kill for food. Instead, it ate the remains of animals killed by other dinosaurs. It was 2m long and had strong legs and arms with sharp claws. Its name means 'top crocodile'.

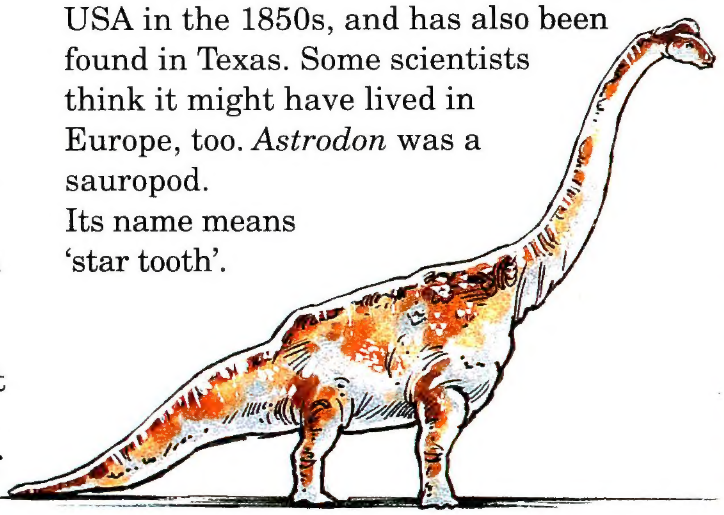
ARRHINOCERATOPS **80 MYA**

Arrhinoceratops (a-ry-no-serra-tops), was found in Alberta, Canada, in the 1920s. It was named 'no nose-horned face' because the scientist who found it thought it did not have a nose horn. But it was later shown that *Arrhinoceratops* did in fact have a horn. This dinosaur was 9m long and had a long frill around its neck. There were also long, pointed horns on its brow. It was a plant-eater and lived in marshy areas in the Late Cretaceous Period in what is now western North America.



ASTRODON **135 MYA**

Astrodon (as-tro-don) was a very large herbivore which grew up to 10m long. It was first found in the state of Maryland in the USA in the 1850s, and has also been found in Texas. Some scientists think it might have lived in Europe, too. *Astrodon* was a sauropod. Its name means 'star tooth'.



MYA = MILLION YEARS AGO

COMING IN PART 4 OF

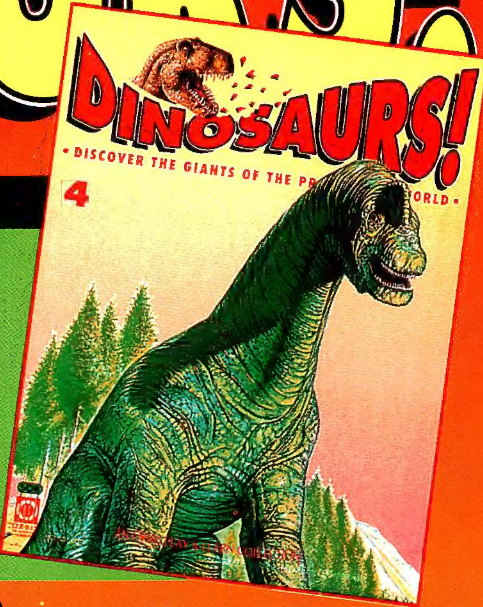
DINOSAURS!

Brachiosaurus was as big as a three-storey building. Find out more about this extraordinary long-necked dinosaur, plus *Albertosaurus* and *Lesothosaurus* in IDENTIKIT.

PLUS

DINOSAUR MODEL: Five more pieces for your *T rex* skeleton

And
SPOTTER'S GUIDE
TIME DETECTIVE
DINOSAUR WORLD

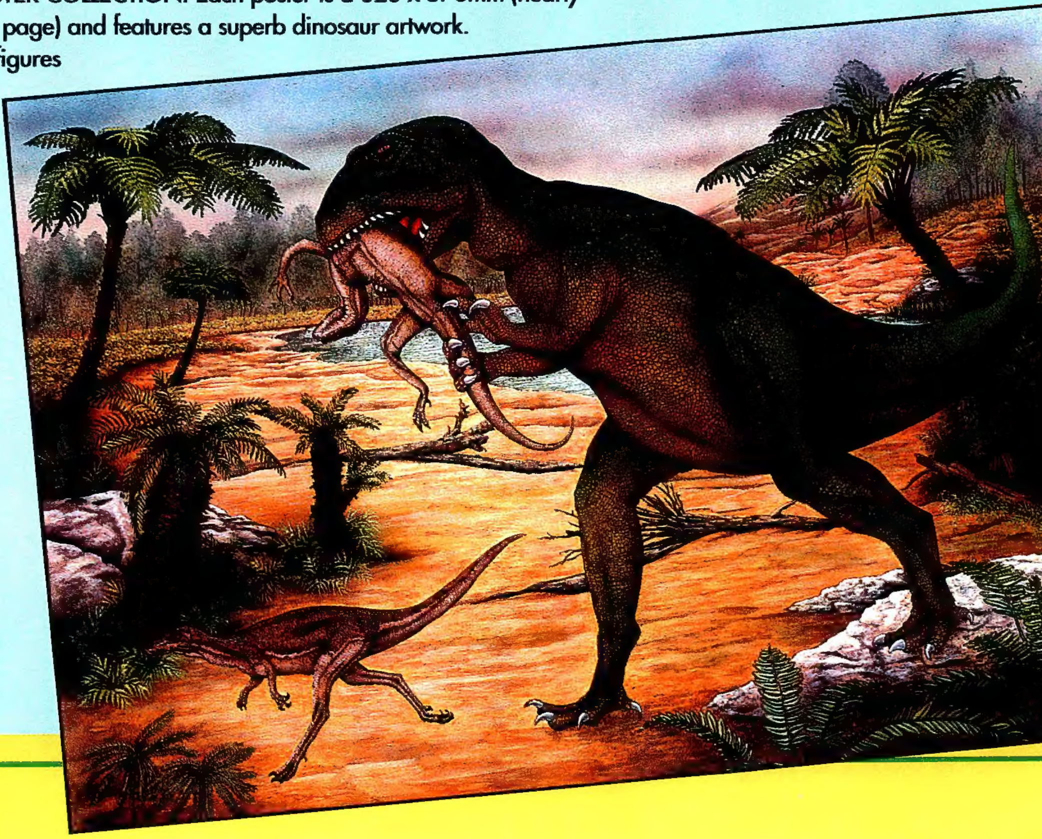


LOOK OUT FOR

THE DINOSAURS! POSTER COLLECTION

Have you ever wanted to fill your room with dinosaurs? Now you have your chance – with the *Dinosaurs!* POSTER COLLECTION. Each poster is a 820 x 570mm (nearly eight times the size of this page) and features a superb dinosaur artwork. You'll find vital facts and figures about the dinosaur on the back – PLUS a look at some other prehistoric animals. The first poster is ferocious *Allosaurus*.

A GIGANTIC DINOSAUR ON YOUR WALL



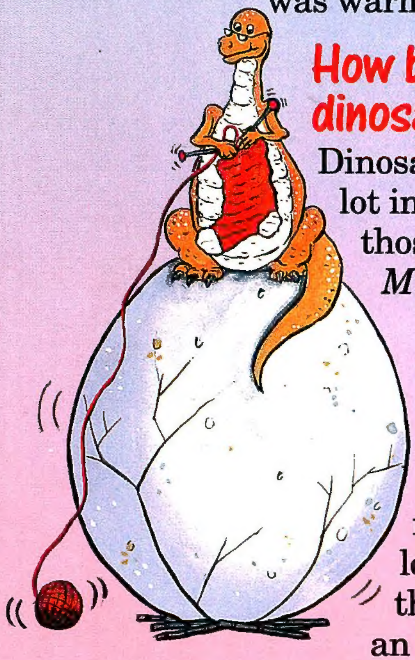
ANSWERS TO DINO FACT FILE QUESTIONS: 1.c 2.b 3.c 4.a 5.a 6.b 7.b 8.a 9.c 10.b

Dr. David Norman of Cambridge University answers your dinosaur questions

ASK THE EXPERT

Did dinosaurs hibernate?

It seems very unlikely that any dinosaurs hibernated. Animals such as tortoises and bears hibernate today because the weather becomes too cold for them and food is scarce. But the climate in dinosaur times was warmer than it is now.

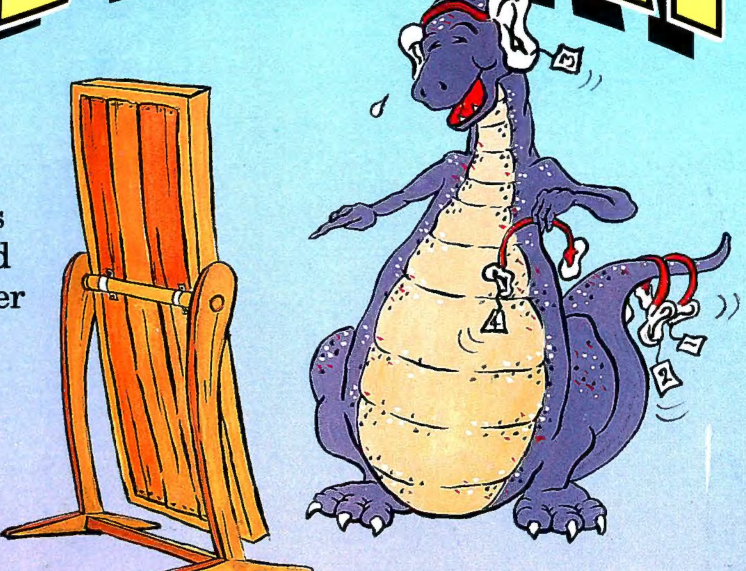


How big was a dinosaur egg?

Dinosaur eggs vary quite a lot in size. Some, such as those found near a *Mussaurus* skeleton, were just 2-3cm long. But others, such as some eggs from a *Hypselosaurus* found in southern France, measured about 20cm long by 16cm wide – that's twice as large as an ostrich egg.

Which dinosaur had the most teeth?

The hadrosaurs (duck-billed dinosaurs) had the most teeth: 480 teeth in the lower jaw and 480 in the upper jaw. That's a grand total of 960 teeth. An adult human has only 32 teeth. Throughout its lifetime, a hadrosaur may have grown as many as 10,000 teeth.



Did dinosaurs have ears?

Dinosaurs had tiny bones to conduct sounds from the eardrum to those parts of the brain where sounds are detected. But they did not have ears like ours. Dinosaur 'ears' would have been small holes in the sides of their heads, near where the head joins on to the neck. This is the same as in birds (whose ear holes are covered by fine feathers) and lizards.

Did dinosaurs have fur?

So far, there is no evidence that dinosaurs had fur. However, it is hard to find out the truth as fur is a soft material, which is unlikely to fossilize.

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